FLORIDA WILDLIFE®

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Pet Owners Can Help Wildlife

Humans become very attached to their pets, and sometimes don't realize how domesticated animals can harm wild animals. Dogs are carnivorous, and their instincts compel them to chase and harass suitable prey. Domestic cats are one of the major killers of small wild birds and mammals in cities and suburbs. Pets released into the wild by owners who have tired of them often starve to death. Others become serious pests by outcompeting native animals for food and other resources.

What You Can Do:

- **Keep your cats and dogs under close surveillance during the nesting season (April through July), when wild birds and mammals are especially susceptible to disturbance.**
- **Put a bell on your cat's collar. The bell will alert songbirds and other small animals of the approaching predator. Keep confirmed bird and small mammal hunters indoors during the nesting season.**
- **Leash your dog. Wildlife species look just like dinner or a playmate to chase.**
- **Spay or neuter your pet and keep vaccinations up to date to protect your pet and local wildlife from rabies and other communicable diseases.**
- **Find a good home for unwanted pets or take them to the animal shelter. Releasing nonnative animals into the wild is unethical, cruel and against the law.**
- **Choose captive-bred animals for pets instead of wild ones. If you buy an animal from a pet dealer, make sure it has not been imported or taken from the wild.**

WHAT HAVE YOU DONE FOR WILDLIFE LATELY?

For more information contact the Florida Game and Fresh Water Fish Commission's Nongame Wildlife Section.

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Commission scientists are making progress in the use of artificial insemination as part of their efforts to save the endangered Florida panther, page 10.

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Covers

Springtime means new life, as evidenced by the robin and its young photographed for our front cover by Ted Rose. Kraig Haske took the back-cover photo of a red fox, the most common fox in North America. In Florida, however, the gray fox is seen more often.

Something Wild's Going On!

By Mary M. Davis

Students wouldn't have believed their eyes — teachers (adults!) in jeans and T-shirts, playing games, getting dirty, laughing and having fun. But that's what it's like at a Project WILD/Outdoor Adventure weekend.

Yet in this casual, camp atmosphere, serious work is going on. These teachers, as well as scout leaders, park naturalists and other adults who work with children, are learning to help students understand nature's complicated interrelationships through Project WILD, an award-winning, interdisciplinary, environmental and conservation education program.

"Project WILD activities *are* fun, but each one is also challenging and helps students understand nature and the effects humans have on their environment," said Pat Millsap, Project WILD coordinator for the Florida Game and Fresh Water Fish Commission. "We use weekend workshops and day-long workshops to accustom teachers to using the outdoors as a classroom."

At a Project WILD workshop, educators become students themselves and participate in some of the same activities in which they will lead children.

"This helps educators understand scientific concepts and become committed to what children need to learn," Millsap said.

The Commission became the state sponsor of Project WILD in 1983, the same year the program was made available by its founders. Project WILD was developed, and is jointly sponsored at the national level, by the Western Regional Environmental Education Council and the Western Association of Fish and Wildlife Agencies. Associate organizational sponsors at the national level include the American Fisheries Society, Canadian Wildlife Federation, Defenders of Wildlife, National Wildlife Federation, The Wildlife Society and the U.S. Fish and Wildlife Service.

Project WILD is now available in all 50 states and, in most cases, is administered through state fish and wildlife agencies. The program also has been adopted and adapted by 10 Canadian provinces, Iceland and India.

"I think the goal of Project WILD, 'From awareness to responsible action,' really sums up its intent," said Judy Gillan, the Commission's education coordinator. "We want to help children understand their part in 'the big picture' and mature into responsible stewards of the environment. This is especially important today, when many children and their teachers come from urban settings and lack opportunities to experience and appreciate wild Florida."

Project WILD, Florida style, depends on volunteers. The Commission relies on facilitators — specially selected and trained veteran WILDers — to teach Project WILD to other educators.

"As state coordinator, my function is to support the facilitators and act as a liaison with the state and national sponsors. Without volunteer facilitators, we couldn't begin to meet the demand for Project WILD here in Florida," Millsap said.

Resource instructor August Schuh Jr. has been a Project WILD educator for seven years. As an instructor at the Polk County Environmental Education Research Center, he often incorporates Project WILD activities into his lessons. He also volunteers as a facilitator to help the program grow.

"I take my kids outdoors to teach them to be environmentally conscious," Schuh said. "I became a facilitator to share the program with other educators. Children are very receptive to Project WILD. The activities get the message across that we humans are part of this world and we'd better start taking more responsibility for it."

Volunteers like Schuh have trained more than 13,000 Florida

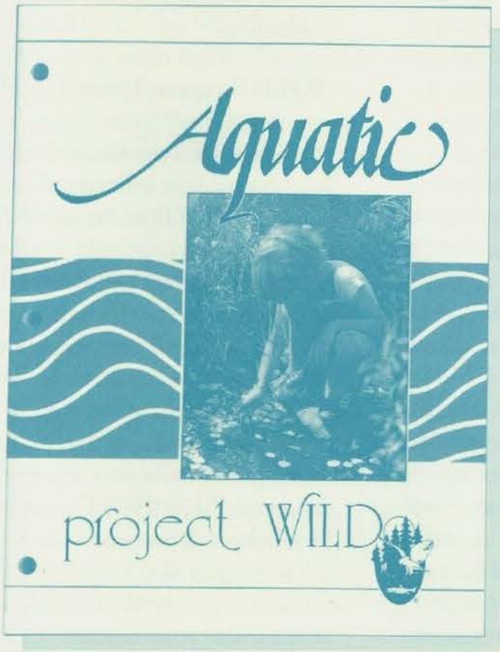
educators to teach Project WILD. These educators reach about 350,000 Florida students each year. During the past school year, Florida facilitators conducted 130 workshops and donated more than 1,500 hours of instruction time to introducing other educators to Project WILD.

Nationally, the program has trained more than 310,000 educators, who in turn reach over 20 million students. Project WILD is the largest environmental education program for K-12 teachers in North America. In Florida, teachers must attend a workshop to receive a Project WILD elementary, secondary or aquatic activity guide, and for good reason.

"We've found that teachers are more apt to weave Project WILD into their curriculum if they've had hands- ▷

BILL BURGIN

Facilitator Bob Smith leads an investigation of aquatic life.



on experience with even a few of the activities," Millsap said. "At workshops, they become excited about Project WILD."

I enjoyed watching the enthusiasm spread as Project WILD facilitators and educators tried the elementary/secondary-level science activity "Habitat Lap Sit." Facilitator Bob Smith, who, like Schuh, is a resource instructor at the Polk County Environmental Education Research Center, led the way.

The group of about 40 participants formed a circle. Smith made his way around the outside, designating each educator as "food," "water," "shelter" or "space."

"Okay, students," Smith said. "People and other animals share some basic needs. Every living thing needs a place to live. The environment in which an animal lives is called its 'habitat.' You guessed it — an animal's habitat includes food, water, shelter and adequate space.

"If any of these habitat components is missing or altered somehow," Smith continued, "the animals in that habitat will feel the impact. It may not be catastrophic, but the changes in the arrangement of these habitat components will no doubt affect the creatures that depend on them."

As an example, Smith cited the Florida panther and its need for adequate space.

"As roads transect the Everglades, the panther's space is impacted, because he must cross these roads to have access to the space he needs to hunt for food and a mate. Panthers are sometimes hit by cars on these roads," Smith said.

Smith then instructed the educators to tighten the circle and turn, so they faced the back of the person to their left.

"Shift, 'habitat,' shift," Smith instructed. "Move that circle in tight! Now sit!"

Laughter erupted as each participant sat on the lap of the person behind them. But it worked — everyone in the circle was comfortably seated.

"All of the components of the panther's habitat are working together in the proportions that meet its needs," Smith said.

BILL BURGIN

Facilitator August Schuh (right) helps a teacher take a look at a pond's microscopic wildlife.

The participants stood again, but remained in the tight circle. Then Smith asked participants who had been designated as "space" to leave the circle.

"Now, 'habitat,' try to sit again," Smith instructed. Lower and lower, each person squatted to sit, but with "space" missing, the circle (the panther's habitat) was not balanced, and soon collapsed.

"This is what happens when a creature's habitat is altered. And humans do this when we develop wilderness, build roads and pollute water and land," Smith concluded.

Schuh, who assisted Smith in leading the activity, urged educators to modify Project WILD activities to meet the needs of their students.

"My sixth graders wouldn't think of sitting on the lap of another student. There are too many hormones involved," Schuh laughed. "I use a large rope instead, tie it into a circle, and have the kids sit in a wide circle, facing me in the center. Holding the rope with both hands, the students try to stand. It works when all the habitat components are there, and the rope is taut, but the kids can't get enough tension to make it work when something is missing."

Whether students use ropes or laps, the exercise is part of a program that teaches an important point, as expressed in Project WILD's motto: "Earth is home to us all — share it responsibly."

WILD Programs Offered In Florida

There are five types of Project WILD workshops offered in Florida:

Project WILD or *Aquatic WILD* workshops are presented throughout the state by Commission-trained facilitators. At least 15 educators must attend this type of workshop, which runs a minimum of six hours. Facilitators provide participants with a working knowledge of the program and the appropriate elementary, secondary or aquatic Project WILD activity guide. Most school districts provide in-service credit. Project WILD activity guides and Commission educational materials are provided at no charge, but sometimes a nominal registration fee is charged to cover the facilitator's

BILL BURGIN

Betsy Sullivan and Eric Hoeppner prepare teachers for a canoeing adventure.

additional materials and refreshments.

Project WILD/Outdoor Adventure/Schoolyard Project workshops are coordinated by the Commission. Outdoor Adventure is a separate program designed to introduce educators to using outdoor skills like orienteering, canoeing and survival as educational tools. The Schoolyard Project is designed to teach ecology and natural history of locally occurring plants and animals. The three programs go hand-in-hand as each promotes the ethical use and stewardship of our natural environment.

The Commission conducts three workshops each year. The earliest is in January at the Commission's Everglades Youth Camp, near West Palm Beach. Another workshop is held at a north Florida camp in late April or early May. The Commission's Ocala Youth Camp is the site of the third workshop, in October.

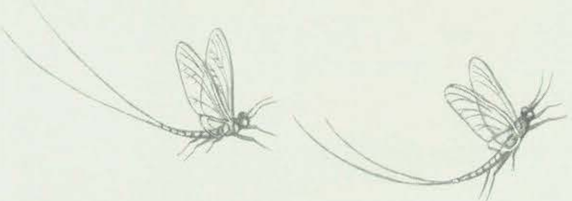
"Our weekend workshops are conducted in a camp setting, complete with fresh air, sunshine, campfires, tons of food, critters and bugs. We want participants to become more comfortable with the outdoors, and we think first-hand experience is the best, if not the only, way to do that," Millsap said. The materials are provided free by the Commission, but a $60 registration fee is assessed to cover meals and lodging.

Advanced WILD workshops let Project WILD enthusiasts return to camp for additional training. Designed to provide more in-depth instruction and hands-on experience, sessions are conducted simultaneously with other types of WILD weekend workshops, and activities are organized around a central theme. At the Everglades workshop in February, participants study aquatic Project WILD and native wetland systems. During spring in north Florida, they participate in other biological studies and practice field techniques. At the Ocala workshop in October, they study ecology and plant identification. Each workshop is limited to 20 participants, and a fee of $60 is assessed for meals, lodging and materials.

Leadership Training workshops provide Project WILD facilitator training to 50 energetic and committed WILDers nominated by their school districts or by Commission staff. New facilitators must commit to teach at least one Project WILD workshop each year in exchange for an expense-paid instructional weekend covering all facets of leading a Project WILD workshop, including planning, history, implementation and evaluation. Training sessions accommodate a variety of learning styles and general leadership skills.

Call of the WILD, the fifth type of Project WILD workshop offered in Florida, is sponsored by the Commission for the volunteer facilitators who answered the "call of the WILD" and conducted at least one Project WILD workshop during the year. Held each September, this motivational workshop provides a forum for facilitators throughout the state to exchange ideas, information and new WILD techniques. This reunion helps facilitators develop local support networks as well as receive recognition for their valuable contribution to environmental education in Florida.

Mary M. Davis is a public information specialist in the Commission's Tallahassee office.



Swarming Mayflies

By Shelley Franz

The final flash of the late May sunset exploded over Ashley Lake on the Ordway Preserve in western Putnam County. A pigfrog snorted its evening call. A large gar darted away from our moving canoe with a splash. Something gently touched the side of my face. As I reached to complete the stroke, another touch softly brushed my hand. First there was one, then 10, then hundreds of fragile, winged insects landing in the canoe.

My mission was to paddle quietly while my husband, Dick, attempted to count the luminous eyes of alligators in the beam of his spotlight. This evening, however, I became distracted by my first encounter with emerging Florida mayflies.

The incredible swarm of winged insects was part of a massive emergence of burrowing mayflies that previously had lived for months as aquatic nymphs in the bottom of Ashley Lake. Amazed, I watched the mating swarms of insects fly upward with great speed and disappear from the beam of my flashlight into the night sky.

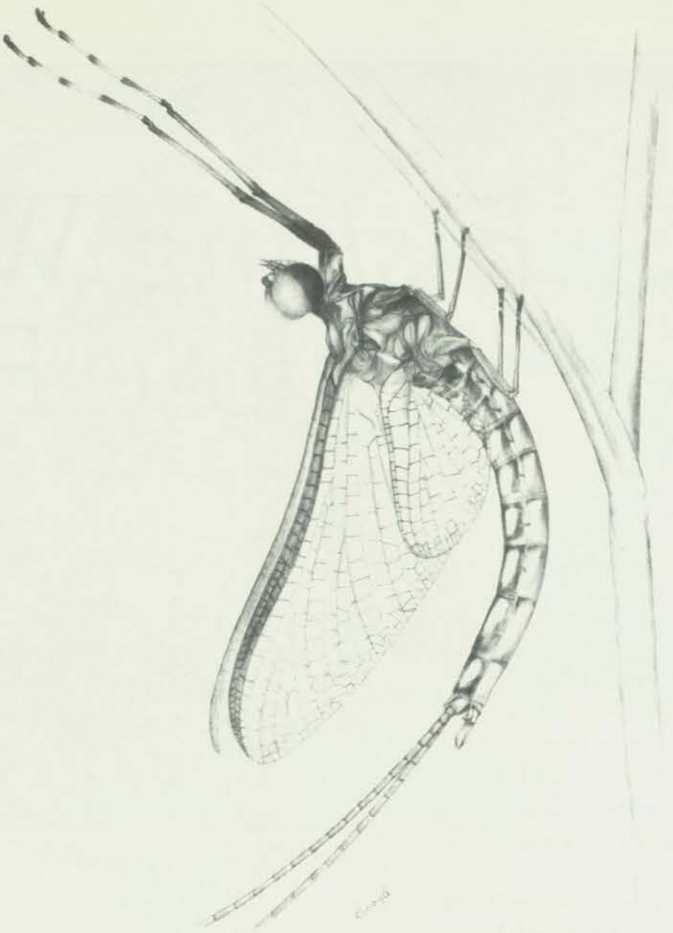
These mating swarms represent only a brief moment in the life cycle of this primitive insect. As adults, mayflies live but a few hours to reproduce and then die.

The life history of these fascinating insects unfolds in the water. After mating, a female releases eggs by dipping the tip of her abdomen into the water. The eggs eventually hatch into strange-looking nymphs that begin life less than 1/25 of an inch long. As they grow, the nymphs can molt their skins 12 to 45 times before coming to the surface for their final ascent toward adulthood. Mayflies are unique in that they are the only insects that molt after they have fully functional wings. Reproduction can occur only after the final molt.

Nymphs of some species live in fast-running water while others occur in ponds and lakes. The Ashley Lake mayflies belong to a very specialized group whose nymphs burrow in sand, silt and mud in the bottoms of rivers and lakes. The worm-like nymphs possess strange, tusk-like projections on their mandibles, which they use as spades to loosen the bottom sediments. Their specialized legs can push silt aside and carry the sediments from their burrows.

In Florida there are 71 species of mayflies, most of which are concentrated in the northern and western portions of the state. Six species are not known to occur outside Florida.

The Ashley Lake mayflies are one of these restricted species that have been found only in unpolluted lakes of Alachua, Bradford, Clay, Highlands, Hillsborough, Lake, Marion, Orange, Osceola, Polk, Putnam and Volusia counties. Known scientifically as *Hexagenia orlando* Traver, this mayfly is one of the most ecologically restricted species in Florida. Their nymphs live in 9-30 feet of water, although their greatest concentrations occur between 18 and 30 feet. Consequently, few people ever see them.



Hexagenia orlando Traver

(PAGE 7 AND 8 ART COURTESY OF UNIVERSITY OF FLORIDA PRESS)

During the mass emergences, the adults can become pests, since they pile up under street lights and must be swept away. Prior to pollution of the Mississippi River, related species were reportedly so numerous that their dead bodies formed windrows on railroad bridges across the river that literally stopped locomotives from crossing.

Mayflies are primitive insects that date back to the Permian Period, over 250 million years ago. Included in the insect order Ephemeroptera, these insects are characterized by two or three long tail filaments that extend outward from the end of the abdomen. The adults have two pairs of delicate, membranous wings that they hold in an upright position over the body at rest. The nymphs have plate-like gills along the segments of their abdomen which help in respiration.

Since the mayfly nymphs are restricted to life in water, they are excellent indicators of environmental changes and act as beacons to signal stress in aquatic systems. In addition they are important links in most aquatic food webs in Florida. Currently, no species are protected by state or federal regulations in Florida. But the Florida Committee on Rare and Endangered Plants and Animals proposed listing three species from west Florida as threatened because of pollution and siltation in the Blackwater, Shoal and Yellow rivers.

Those fortunate people who live around the lakes in peninsular Florida can look forward to these emergences of the burrowing mayflies. But don't be alarmed by the large numbers that accumulate on your window screens; view this spectacular natural event as a sign of a healthy lake ecosystem.

Shelley Franz is a former science teacher who has worked on several field projects in Florida, the Bahamas, Cayman Islands and Haiti. She is a consultant in environmental education and currently working on a project with Florida Sea Grant.

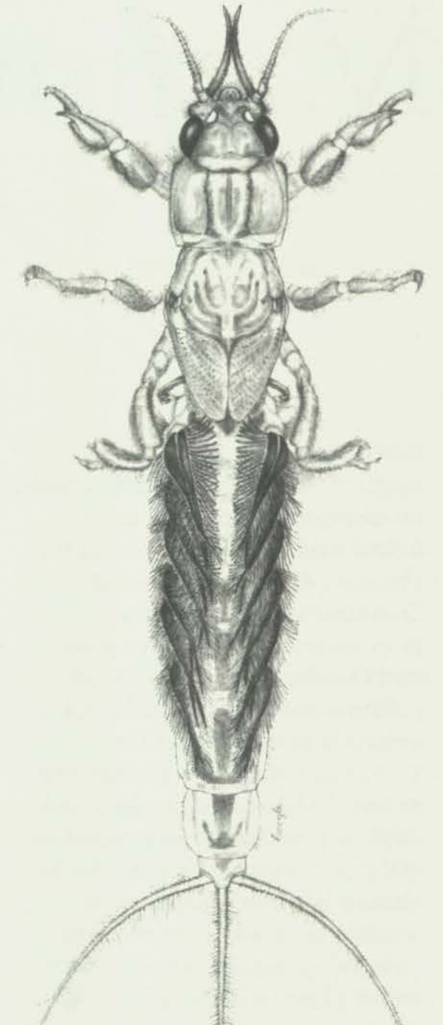
Fishing With Willow Flies

One of my earliest memories of fishing with my grandfather recalls one beautiful spring morning when thousands of yellow-bodied mayflies were swarming everywhere.

"Willow flies," my grandfather called them, "the fishin' will be good today. Watch this!"

We motored over to an overhanging willow branch and anchored. Then, after we had baited our cane poles, he shook the branch. Hundreds of mayflies fell out of the leaves and dropped into the water. Bream were popping everywhere, and we had no problem catching a nice mess of fish.

This method of baiting up bream is the most common use for a mayfly hatch in Florida. Fly-fishermen need not worry about "matching the hatch" since sunfish are not as particular about their meals as the various northern trout species are. In fact, most fly-fishermen I've interviewed don't feel the need to change the type of fly they use during the fly-fishing season.



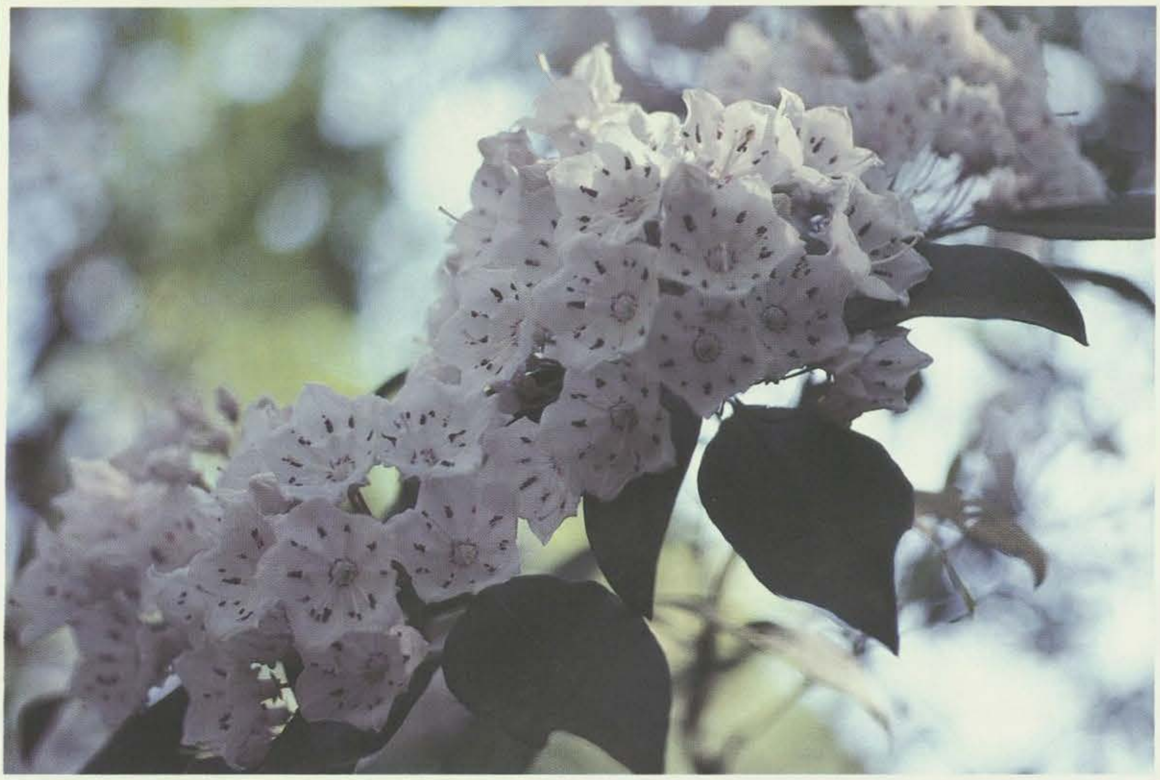
Hexagenia limbata

Another use for a mayfly hatch is to collect enough of the adults to fish with or to use on a trotline. Anglers spread a sheet under a bright light and in a short time, collect enough to freeze for later use or sale. This method is most often used around central Florida lakes. Primarily, the burrowing mayfly, *Hexagenia limbata,* is caught in this manner. Fishfly, giant Michigan fishfly, great olivewinged drake, Michigan caddis, Michigan spinner and sandfly are all common names for this species.

Florida's waters are rich with aquatic insects. The vast majority are important fish food items but are too small to put on a hook.

Most of Florida's fishing waters are lakes, and it is only in the larger streams and rivers of the panhandle where one finds stoneflies, caddis flies and hellgrammites so important to trout fisherman.

—Michael Hill
Division of Fisheries



GRAY BASS

Mountain Laurel

Mountain laurel in Florida? Yes. Mountain laurel blooms in the spring, adding beautiful, clustered corollas to Florida's profusion of wildflowers. Along with rhododendron, most of us associate mountain laurel with the long, blue ridges of the Appalachian Mountains. As it does in those highlands, *Kalmia latifolia* thrives along many of northwest Florida's cool streams. Those who like to roam the land can discover it blooming in wooded ravine slopes, river bluffs and shaded creeks of the panhandle. Its Florida range is from the Perdido River to the Ochlockonee River watershed. Suwannee County also harbors a separate population.

Because of its rarity, this evergreen is classified as a threatened species in Florida. Also called calico-bush or spoon-wood, this member of the Heath family blooms in Florida from late March through early May. The laurel shrub's flower clusters are pink-to-white, distinctively cup-shaped blooms. A leisurely drive along the pine-guarded back roads of Blackwater River State Forest will reveal laurel, especially at stream crossings. Please take only pictures and leave the blossoms for the bees.

— Gray Bass
Division of Fisheries

Panther Researchers Report Breakthrough

By Henry Cabbage

The Feb. 10 birth of a cougar at a Lee County wildlife sanctuary marks one more breakthrough in the struggle to save the Florida panther from extinction.

The kitten is the first cougar ever produced through a medical procedure called "laparoscopic insemination," and the second ever to be produced through artificial means. Researchers hope to use this procedure to produce Florida panther kittens in captivity for eventual release into the wild.

The birth of a healthy kitten through artificial insemination is just one of several reproductive technology strategies for a new captive breeding program for Florida panthers.

Research physiologists are trying to meet the challenge of increasing numbers of panthers in a critically short time frame. But efforts to develop an artificial insemination method and beat the process of extinction for panthers have taken time. And time is running out.

During recent decades, inbreeding has caused rapid and destructive loss of viable genetic materials essential to the long term health and survival of the wild population. Greater numbers of panthers are necessary to solve this problem of "genetic depression" and these numbers can be attained only through a successful captive breeding program that will produce healthy animals that can be released into the wild.

By selectively mating captive animals, scientists can keep panther kitten survival at the maximum and improve the subspecies' long-term genetic health.

The insemination research began three years ago by first developing the techniques for artificially breeding house cats.

"The work advanced this past winter to further refine the procedures in cougars as surrogates for Florida panthers which we ultimately will breed in captivity," said Tom Logan, head of wildlife research for the Game and Fresh Water Fish Commission.

Artificial insemination has been used for years as a standard technique for successfully breeding many species of mammals, from livestock to humans. But researchers know that the standard methods of artificial insemination do not generally work with cats because their reproductive physiology differs from that of many other animals.

A female cat begins an estrus cycle similar to that of other mammals but does not release eggs into the uterus without the presence and stimulation of a male cat. The eggs must be released into the uterus for contact with sperm for pregnancy to occur. If a male is not involved in the normal process, the eggs are reabsorbed by the female's body, rather than released. Therefore, artificial insemination of cats generally requires a specific application of a hormone to stimulate egg-release in the absence of a male. And the timing is critical for introduction of sperm.

"Researchers are refining the specific dosage levels and timing of applications of insemination in domestic cats and cougars so little experimentation will be required for use of the technologies for breeding Florida panthers," Logan said.

He said scientists re-evaluated the population viability of the Florida panther three years ago and concluded it would be necessary to increase numbers of panthers as quickly as possible. They established a plan to use a portion of the wild population to create a representative captive breeding population of the endangered animal. However, the problem was complicated by the fact that only a few dozen Florida panthers are known to occur in the wild.

The Commission's wildlife veterinarians, Dr. Melody Roelke and Dr. Carolyn Glass, worked with Dr. JoGayle Howard and another veterinarian, Dr. Mark Barone, to perform the laparoscopic insemination procedure on 10 female cougars during November and December. Drs. Howard and Barone are researchers with the National Zoological Park in Washington, D.C.

Six of the cougars were at the Octagon Wildlife Sanctuary, Rehabilitation, Learning Center and Conservancy near Ft. Myers; three at the Wild Animal Retirement Village near

Waldo; and one at the Commission's Wildlife Research Laboratory at Gainesville. Male cougars in the project were on loan from Everglades Holiday Park near Ft. Lauderdale.

With each cougar, researchers varied the level of the hormone dosage. In addition, they varied timing of the procedure and other factors to try to develop a clear picture of what combination of variables would be most likely to produce pregnancy most often.

After performing the procedure, there wasn't much else to do but wait for one of the cats to show signs of pregnancy during the cougars' three-month gestation period.

"One of the cats at Octagon became pregnant through the procedure," Dr. Roelke said. "The kitten was born Feb. 10."

Officials are keeping the mother and kitten in isolation from people while the two animals bond.

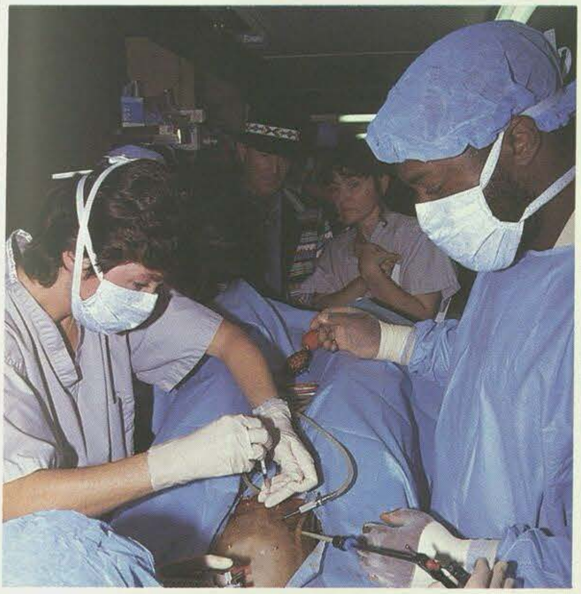
"Cougars that are stressed too soon after giving birth sometimes react by destroying their young," Logan said. "We certainly don't want to risk that."

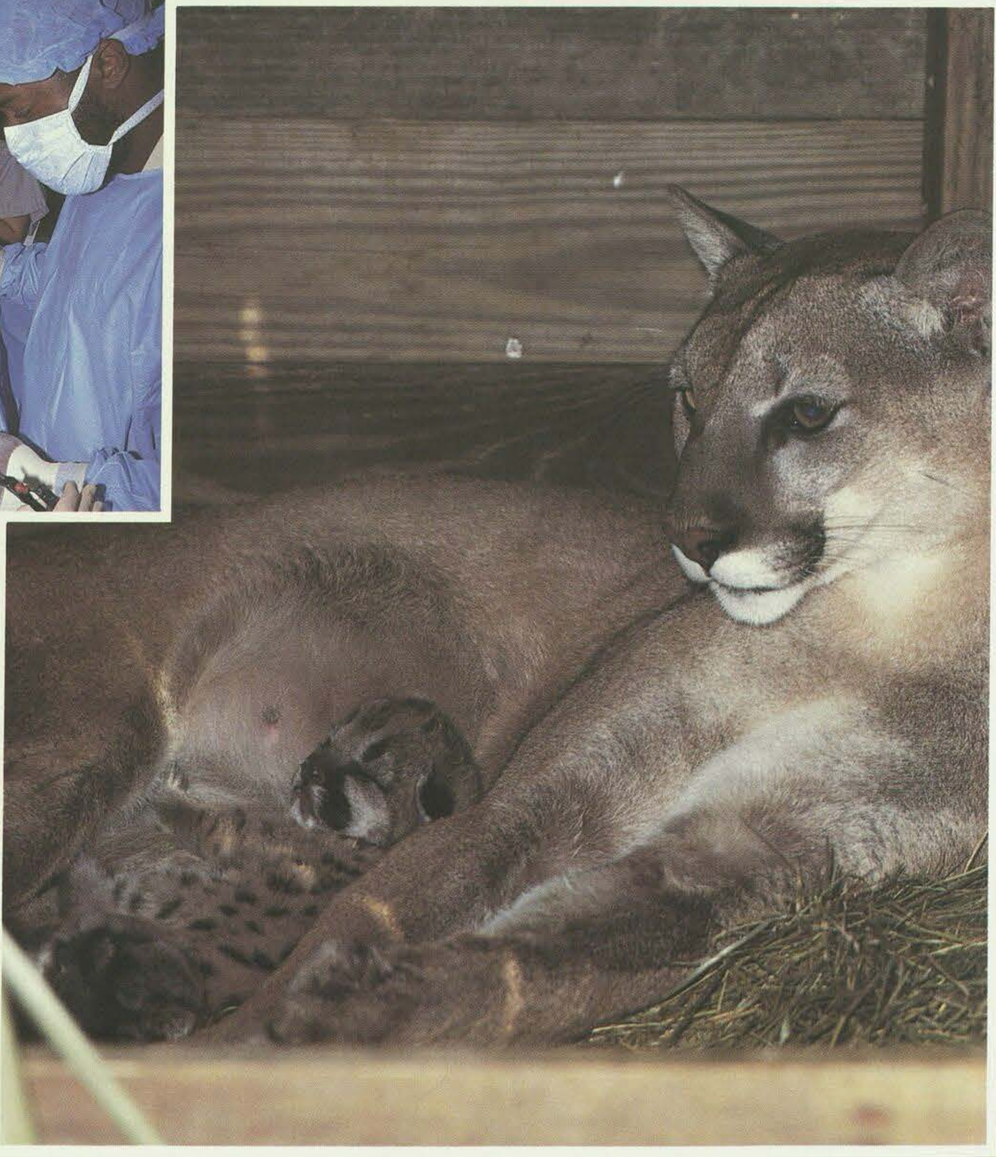
The fact that researchers have produced a cougar kitten through artificial insemination is of considerable historical significance, but the most important result is that it now appears likely that scientists will be able to use the same technology to produce Florida panther kittens.

Dr. Roelke said she hopes to continue laparoscopic insemination research this spring by further testing the combination of procedures that produced the kitten in February. Perhaps these procedures will be developed for breeding Florida panthers within another year.

Logan said researchers hope eventually to produce enough Florida panther kittens in captivity to provide a genetically diverse brood stock for placement back into the existing wild population and to re-establish the subspecies in areas of suitable habitat of its historic range.

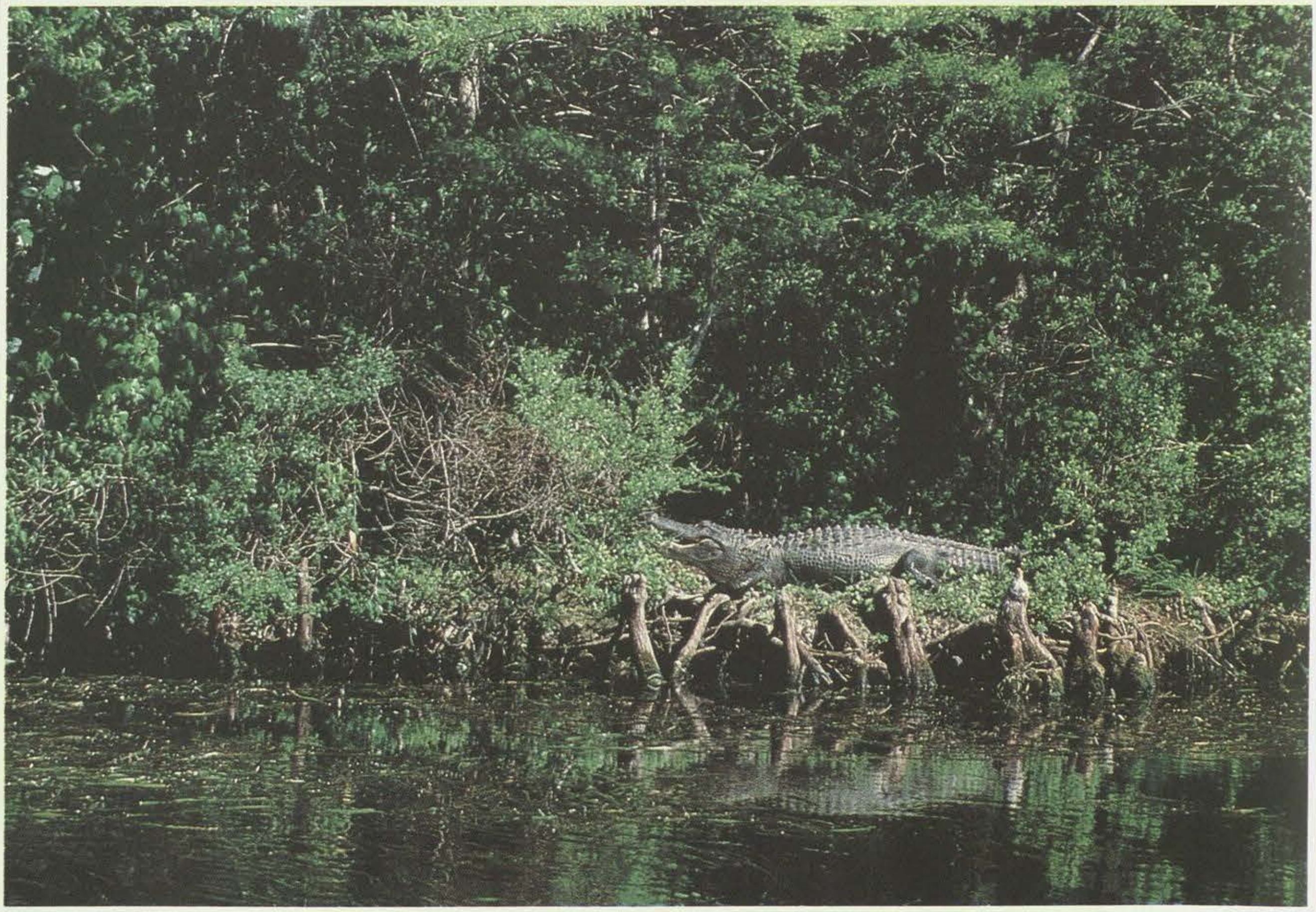
Without captive breeding and reintroduction efforts, wildlife authorities believe the Florida panther will fade into extinction within a few years.



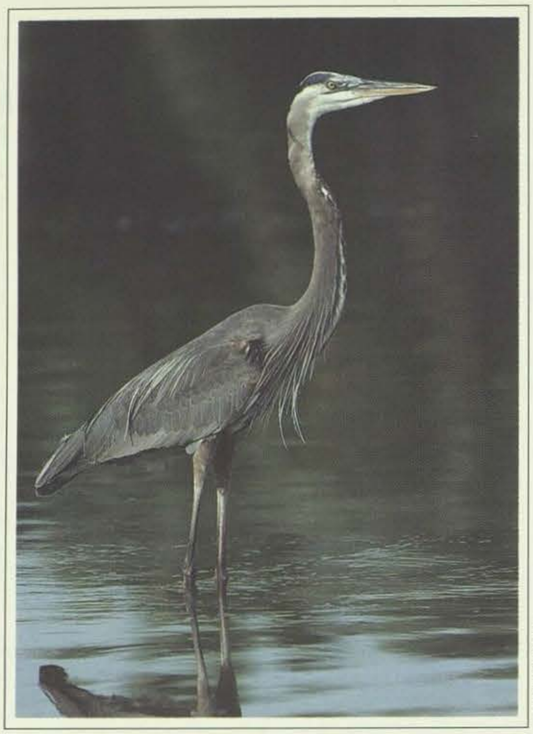


PHOTOGRAPHS BY
JERRY LEE GINGERICH, D.V.M.

Northwest Florida Water Management District forester Bill Cleckley (left) and biology professor Sneed B. Collard Jr. discuss bottomland hardwoods ecology among a flooded forest of cypress and tupelo.



PHOTOGRAPHS BY SNEED B. COLLARD III



LYNN STONE

Up the Escambia with Swampin' Bill Cleckley

By Sneed B. Collard III

Spending summers with my dad in Pensacola, I never paid much attention to the Escambia River. On occasional drives to Tallahassee we'd cross over it, a pleasant stretch of brown water that disappeared into silent stands of trees, but that was all I knew of it. Out of sight, out of my teenaged mind.

Not long ago, however, I received an excited call from my father, a biology professor at the University of West Florida.

"You wouldn't believe where I've just been," his voice crackled over the long distance wire. "I rode up the Escambia with a local forester to a place called Parker Island, and man, you should have seen it. Cypress trees hundreds of years old, birds everywhere, lots of herons and egrets, turtles on every log — I've never seen anything like it!"

Never seen anything like it? High praise from a biology professor, even considering my father's tilt toward exaggeration. Since I planned to visit Florida soon anyway, I asked him how I could arrange a tour.

The next morning I dialed William Cleckley, forester for the Northwest Florida Water Management District. Cleckley's duties embrace almost every aspect of the district's operations: from identifying properties critical to maintaining water quality, to developing forest management plans, to responding to informational inquiries from people like me. Not surprised by my call, he answered my questions about the Escambia River and Parker Island as if he'd known me all his life.

Cleckley told me that with the help of St. Regis Paper Company and The Nature Conservancy, the district had acquired 4,000-acre Parker Island and the surrounding watershed as part of the state's Save Our Rivers program. The program is designed to protect Florida's water quality, but it also ▷

provides environmental protection and limited recreational opportunities.

Since 1981, Save Our Rivers has raised hundreds of millions of dollars from documentary stamp fees on real estate transactions. All told, Florida's five water management districts have purchased well over 300 thousand acres, including 18,000 acres of the lower Escambia.

Before we hung up, Cleckley said, "Let me know when you're coming, and I'll take you up there."

A month later, my father and I set off up the Escambia in a 14-foot aluminum skiff. At the helm of the 25-horsepower outboard sat Bill, a relaxed, rough-cut man wearing jeans, waterproof boots and a khaki vest. "Swampin' Bill," I dubbed him.

Almost immediately, we were absorbed in the Escambia's beauty and history. Two hundred yards from the boat ramp, a huge iron cylinder rose like a ventilation shaft midstream.

"That used to be a swing bridge for barges and boats," our guide told us. "When a boat came through, the bridge would actually rotate 90 degrees to let it pass. The original logging company built the bridge to get over to the island and into the next county."

"Oh, that's Parker Island?" I asked.

"That's it," the forester said. "It's been selectively logged over the years, but they never really came in and clear-cut everything."

I scrutinized the lush wall of green to my right. After visiting rain forests in Australia and Malaysia, I became a sort of "diversity junkie," and the first thing I noticed about Parker Island was that lots of different trees seemed to be sprouting from it.

"How many tree species grow around here?" I asked. "Oh, I imagine you'd get 50, 55 or so," he casually replied.

Fifty-five! It didn't rival the 800-plus species in some tropical rain forests, but it sure beat California's forests and most other places I'd visited.

Bottomland hardwoods, often called "swamps," are generally defined as the areas along certain rivers that are regularly flooded. River systems falling into this category stretch from Texas to Virginia. Besides supporting a remarkable diversity of plants — over 250 species — scientists believe flooding makes bottomlands among the most productive natural ecosystems in the world.

One reason is that bottomland forests slow floodwater, allowing it to deposit valuable nutrients. Being in the Sun Belt, these river systems experience longer growing seasons and more rapid decay of logs and other dead material on the forest floor. This decaying material forms a spongy mat, one that retains water for use by vegetation during dry weather and adds to the system's available nutrients. During annual floods, some of these nutrients are carried downstream where they enrich nearby estuaries.

But plants aren't the sole beneficiaries of the bottomlands ecosystems. One study showed that bottomlands support two to five times as many game animals as nearby mixed pine and hardwood forests.

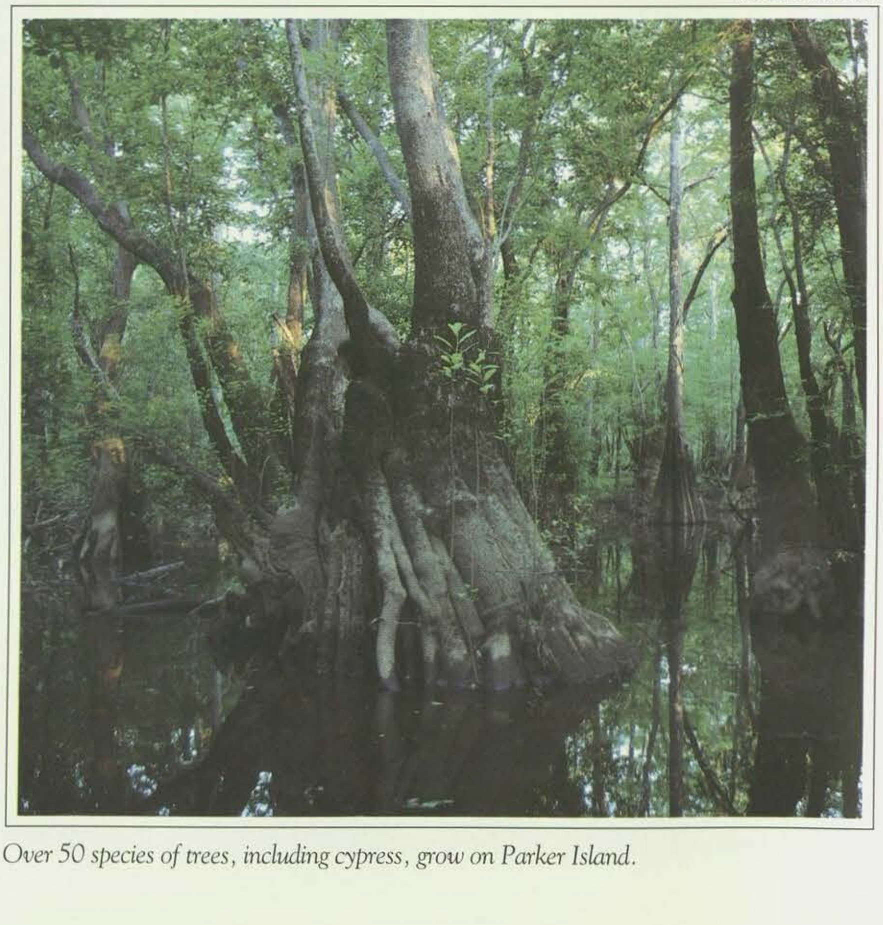
And man reaps sustained, direct benefits from this productivity. Nourished by the Apalachicola River system, Apalachicola Bay annually produces an estimated $14 million worth of seafood, including 90 percent of Florida's oyster crop and the state's third highest shrimp harvest.

Bottomlands, however, like many other productive ecosystems, are in trouble. A recent study by the U.S. Fish and Wildlife Service found that from the mid-1970s to the mid-1980s, over 3.4 million acres of forested wetlands were destroyed. Most of this loss took place in the Southeast to bottomland hardwoods much like these.

There are many threats to bottomlands. Agricultural development, highway construction, urban expansion and conversion to monoculture tree farming have made inroads into the river's bottomlands. And yes, logging.

"What people don't understand about these bottomlands," Cleckley explained, "is that for 15 or 25 years after cutting, they don't look too

D. BRUCE MEANS



Over 50 species of trees, including cypress, grow on Parker Island.

appealing. Then the dominant species start shooting up, and in 50 years it will look really good. In 75 or 100 years, it's hard to tell it's been logged. I say 100 years, but it may take longer, maybe 150 to 200 years, to reach a climax stage.

"People see a pine plantation that grows in 20 years and think the same growth rate applies to this land, but it doesn't," he continued. "The best method for logging bottomlands is to time your cut for the dry season so that you cause the least disturbance to the soil. You get the best regeneration from a clear-cut patch of 100 acres or less. The ideal size is 30 to 50 acres. Sprouts and seeds regenerate, as does the 'seed bank,' a layer deposited years ago. Some wind-blown seeds sprout, but not many. Usually you get amazing regeneration from the seed bank, but if not, you can go in and supplement it.

As we continued upriver, he pointed out the major trees towering overhead: cypress, four species of tupelo (a source of famous tupelo honey), a number of different oaks, maple, ash, magnolias and many more. A different species of bird seemed to inhabit every branch.

"A lot of birds use floodplains as corridors, migration routes to the north," he told us. "Oh, there's a fallen tupelo. Hang on!" Directly ahead, a bobbing, 4-foot thick trunk blocked our passage. Without flinching, Swampin' Bill gunned the motor, and our skiff neatly bounced over the obstacle.

"That wasn't down the last time I was here," he said. "It must have fallen during this year's floods."

Cleckley resumed talking about birds and pointed out prothonotary warblers, great blue herons, egrets, wood ducks and wood storks.

"My favorite kind of birds are the night herons," my father volunteered.

Swampin' Bill smiled. "Mine's swallow-tailed kites."

After an hour, we reached the top of Parker Island and began making our way down the other side on the Delaney River. To our right I noticed brilliant blooms of orange and white native azaleas. A minute later, we passed a water snake resting on a snag midstream. On every log, sliders and map turtles soaked up the Florida sunshine.

Cleckley cut the engine, and we drifted slowly though the tranquil waters. The bottomlands rendered me increasingly awestruck. Only 15 miles away lay the sprawling suburbs of Pensacola with their confusing highways, endless malls and unrelenting traffic. Yet now, I felt like I'd been transported back to primeval times. Here, the secrets of life resided, offering unexcelled abundance and beauty. My father, Bill, and I remained silent for longer and longer stretches, letting the river wash through our souls.

Then, a solid reminder of mankind loomed on the shore: the hulk of a rusting refrigerator. We pulled over and climbed out.

"There used to be a cabin here," our guide explained. "A number of these cabins stood up and down the river when the water management district got this land. Right now the danger to this river system is not so much resorts and big developments, but cabins like this. People came in here and ran sewage straight into the river or put in a shallow, 50-gallon septic tank. They also left their trash behind."

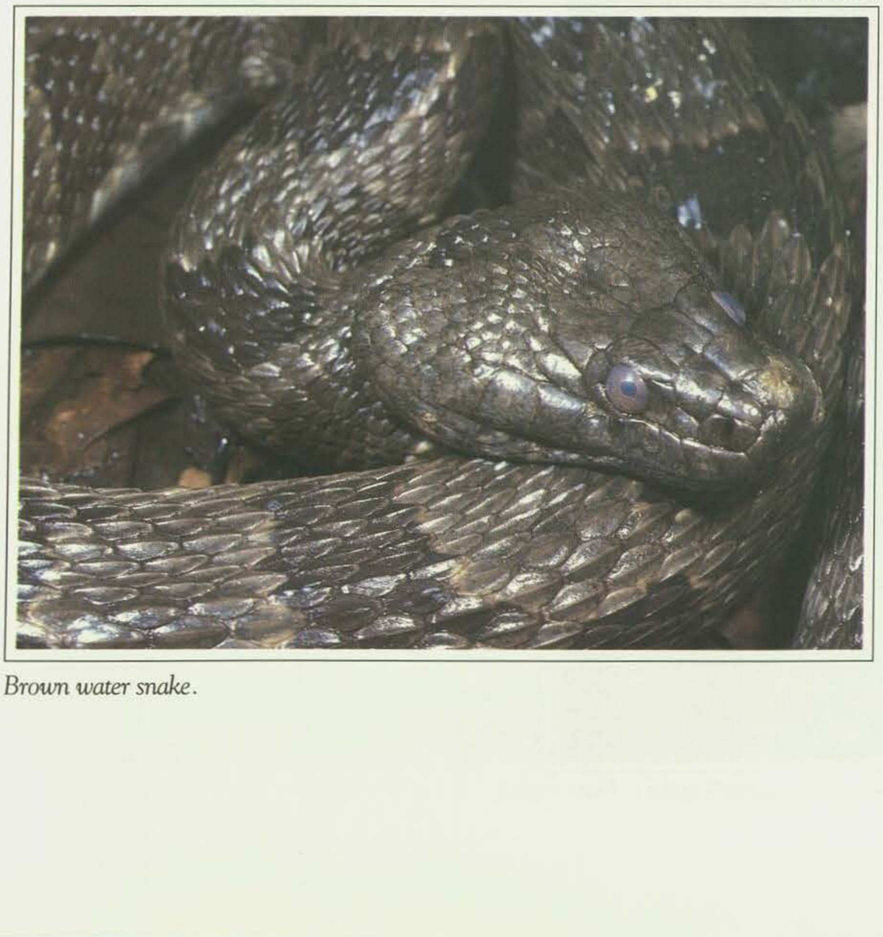
Back on the river, I asked about native wildlife other than birds. Cleckley told me that they occasionally see bears, bobcats and other wildlife.

"With the surrounding development, animals are forced into the bottomlands as a refuge," he said. "There's one big gator down here that hangs out on a log. When he comes off that log, he'll rock the boat. They're usually pretty shy, though."

He cranked up the motor again, and we slalomed down the winding waterway. After 10 minutes, we suddenly slowed and turned left. I presumed we were going ashore again, but at the last moment a hole in the forest opened before us.

I gasped. Passing under a branch, I found myself floating inside a dimly lit cathedral of cypress and tupelos. Supported by wide, living buttresses, the trees rose from the water and spread into a dizzying ceiling that excluded the ▷

JOHN PALIS



Brown water snake.

sun's rays. While my father and I gawked, Cleckley picked his way through the giants and led us onto a placid reflecting pool, the remnant of an older stream channel now slowly filling with sand. Ahead of us, several wood ducks dove, and I waited for them to resurface.

"They can stay down for minutes at a time," he warned me. "They go down there and just grab onto something and stay."

"Hey look at that," my Dad exclaimed.

"Mayhaw," Swampin' Bill said, guiding the boat to a bush full of waxy red fruit.

"The only other time I've seen this was when I was out with you last time," my father said.

Cleckley handed me a fruit, and I nibbled away its flesh. It tasted like a cross between an apple and a strawberry. Delicious.

"You'll find them all over Louisiana," he said. "Here, there aren't too many."

After returning to the river, we backtracked upstream and entered another flooded forest cathedral, this time in Parker Island. Again, giants enveloped us. The great tree trunks limited our visual universe to a 100-foot radius, and fallen logs lay everywhere. I lost my orientation and expected the boat to inextricably lodge between two tree trunks, but we made steady progress, turning right here, squeezing through a cluster of cypress knees there. Once he stopped and said, "Darn, I lost my channel."

"What channel?" I asked him. "How can you possibly know where you're going?"

He chuckled. "Well, I look for several things. The larger trees tend to grow right at the channel's edge so I follow those. Also, I watch for the current."

I looked at the water to see if it moved, but I was sure it hadn't — at least not in the last century.

"I'd like to put a few self-guiding canoe trails in here," he continued. "We have the money to buy these places, but 99 percent of the people never get out here 'cause they're scared. Those that do get out here, though, really *ooh* and *ah*. What we need is more public education about the importance of bottomlands."

After 20 minutes, thoroughly turned around, I spotted a river channel to my left. We had completely crossed Parker Island back to the Escambia River and a moment later emerged into the dazzling sunlight of an April afternoon. On our way to the boat dock, my brain pleasantly overloaded, I sat mesmerized by the swirling pollen dusting the water. Then, before me rose a stunning, dusky blue creature with a yellow and white crest.

"Yellow-crowned night heron," Cleckley shouted above the motor's roar. My father beamed upon seeing his favorite bird. Seconds later, suspiciously on cue, a sleek, black and white raptor with a long, forked tail swooped over us.

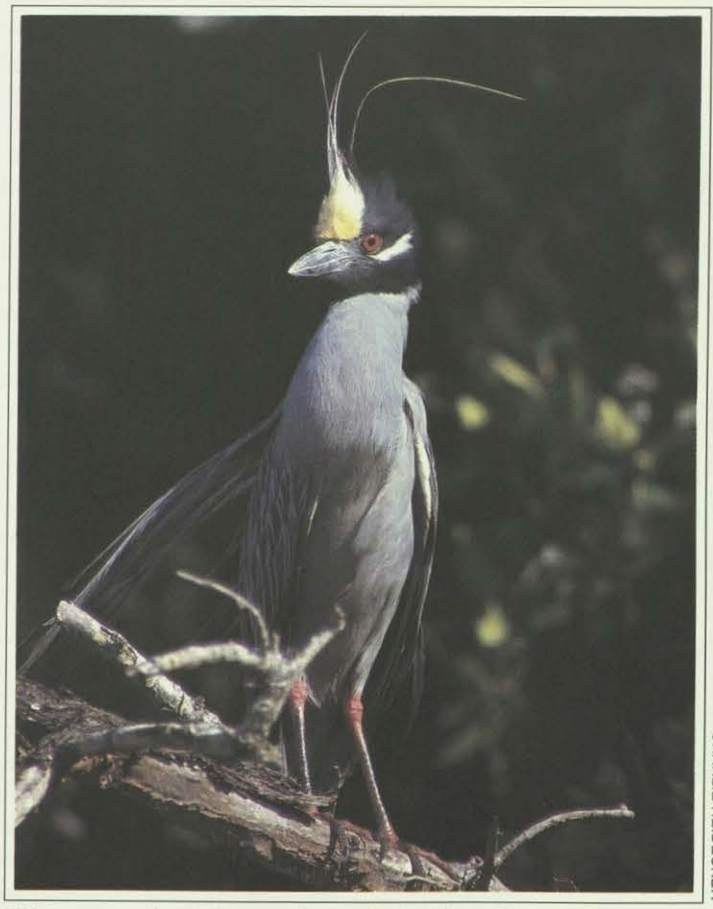
"There's a swallow-tailed kite," he whooped. I looked for my favorite bird, the brown pelican, but it was too much to expect.

After helping our guide pull the skiff back onto its trailer, I asked him what he'd like to see done with Parker Island.

"Our first priority is improved water quality, and after that, recreation," he explained. "But I'd like to turn the island into a wildlife area of some sort. A lot of poaching goes on here, but the island could serve as a refuge if we make it one. The problem is enforcement. What we'd like to do is restrict hunting to brief seasons for archery and muzzleloaders."

Sounded good to me. As we shook hands, I wished him luck — for Parker Island and the wildlife, of course, but mostly for myself.

Sneed B. Collard III lives in Santa Barbara, California, where he writes for children and adults. His first children's book, "Sea Snakes" (Boyds Mills Press), will be published this fall.


CHARLIE HEIDECKER

Yellow-crowned night heron – favorite bird of the author's father.

Knife-maker

At Home in the North Florida Woods

Text and Photographs by Richard Farren

Using skills passed along through three generations, he turns railroad spikes into custom knives.

Edgar Chattin is the type of carefree person many of us wish or dream we could be — at least when we're stuck in traffic or answering the phone for the 100th time that day.

The difference is, when Chattin "grew tired of someone else running" his life, he did something about it. He traded in the daily routine, the 8-5 life "beneath the wheel," to pursue a less pressured life in the woods, where he is his own master.

Sort of a modern day Thoreau, Chattin lives deliberately — doing exactly what he wants. You can tell by his easy manner, his comfort within his surroundings and the way he pursues his craft, which he creates in bone, wood and metal. Chattin is a knife-maker, an appropriate livelihood for this avid outdoorsman.

Edgar and his wife, Jean, live a couple of miles down a one-lane sand road in Wakulla County. A small sign, "Custom Knives and Archery Shop," marks the turn into the woods.

When you pull into the yard you're likely to find Chattin in his workshop, or in the yard filling the bull's eye of a target with arrows. Dressed in overalls and a camouflage cap, he stays close to his two avocations, knife-making and archery.

He was raised "as far off into the woods as you could drive" near Palm River, south of Tampa. Like most boys raised in the woods, he learned to hunt, fish and trap. In addition, his father taught him to cut, weld, braze, solder and temper steel as had his father. He also learned some secrets of knife-making — things largely forgotten today, such as quenching (water-cooling) red-hot iron in a north-south ▷

direction so the molecules line up with the magnetic poles, thus creating a sturdier, straighter blade.

After watching the Jim Bowie television series, he and his childhood friends made their first "Bowie" knives out of automobile springs. "We also learned the value of a good knife, not as a weapon, but as a survival tool — a tool of the woods," Chattin said.

"But it changed," he said, referring to his home. "Soon the roads were paved, houses and trailer parks went up, and 'no trespassing' signs appeared."

While investing 15 years as an industrial master mechanic, he turned to north Florida for hunting and a life similar to the one he once knew. Ten years ago he was able to purchase a small parcel of land amid 10,000 acres of woods, and five years ago the Chattins made their move. They chose Wakulla County, Chattin said, because of the freedom of the woods, lakes, streams and rivers.

"The land here fits me perfectly," Chattin explained. Perhaps as perfectly as one of his blades fits its handle — rugged yet smooth, the hunter and artist in one.

Edgar is an accomplished still-hunter, and when archery season opens he has to squeeze in his knife-making between hunting trips. The rest of the year, only fishing gets in the way of his craft.

Life in the woods wasn't always this idyllic, however. Shortly after moving to north Florida, Chattin came down with a serious illness, and the money dwindled quickly. By the time he had recovered, about all he had left was a bucket full of files, the ability to work with metal and the heart of a craftsman.

With only hand tools and the steady encouragement of his wife, he hammered out three knives, which sold immediately. He made three more. They sold. He made more.

While we talked, Edgar stoked a homemade forge made from a brake drum, a few feet of pipe and an electric blower.

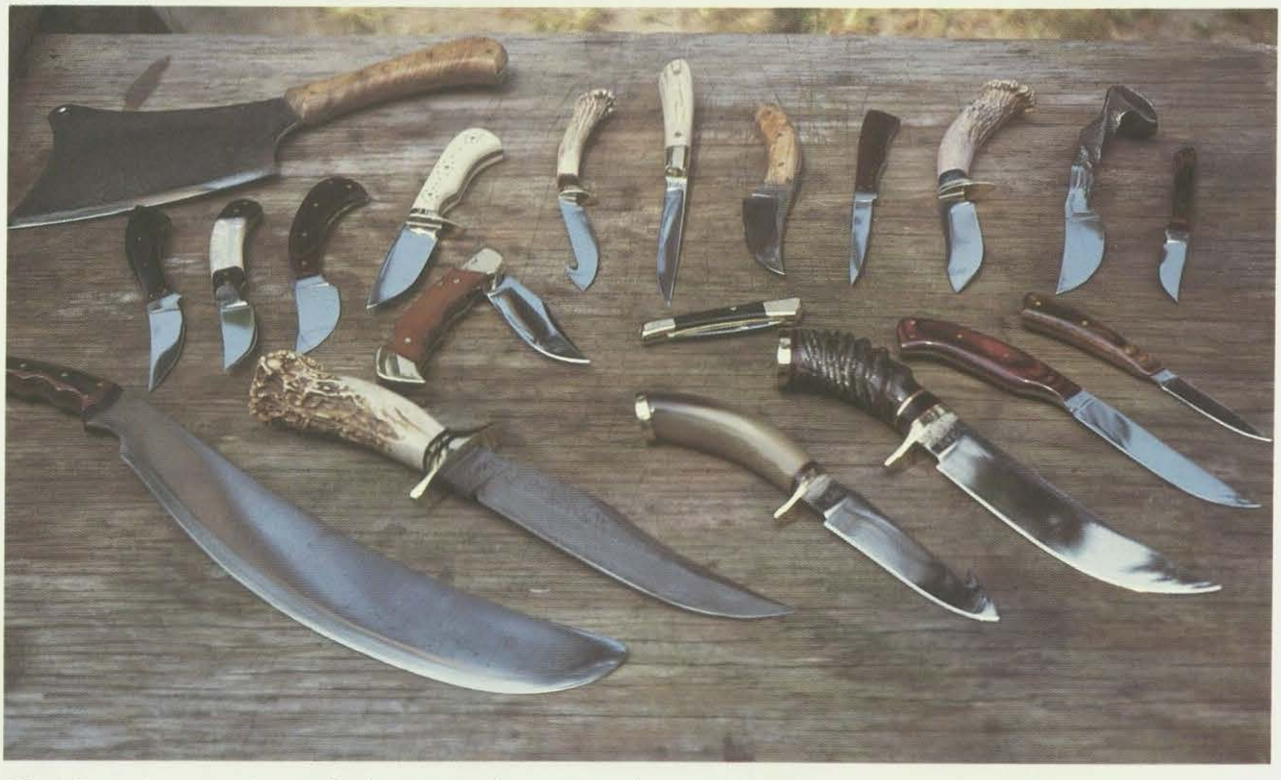
"Everyone was a craftsman at one time," Chattin said. "We made all of our own tools, including knives. But modern-day technology has replaced much of this knowledge. A knife-maker today has to be many things," he said, stirring the coals and watching the sparks rise with the hot air. "He has to be an artist, fitter, machinist and leathersmith. He has to know something about metallurgy; he even has to be a salesman."

Today Chattin is making knives out of the spikes that once held the rails in place for the Tallahassee to St. Marks railroad, the oldest line in the state. The track, which once carried cotton and other crops from Tallahassee to a port on the St. Marks River, was torn up a few years ago and converted to a bicycle trail.

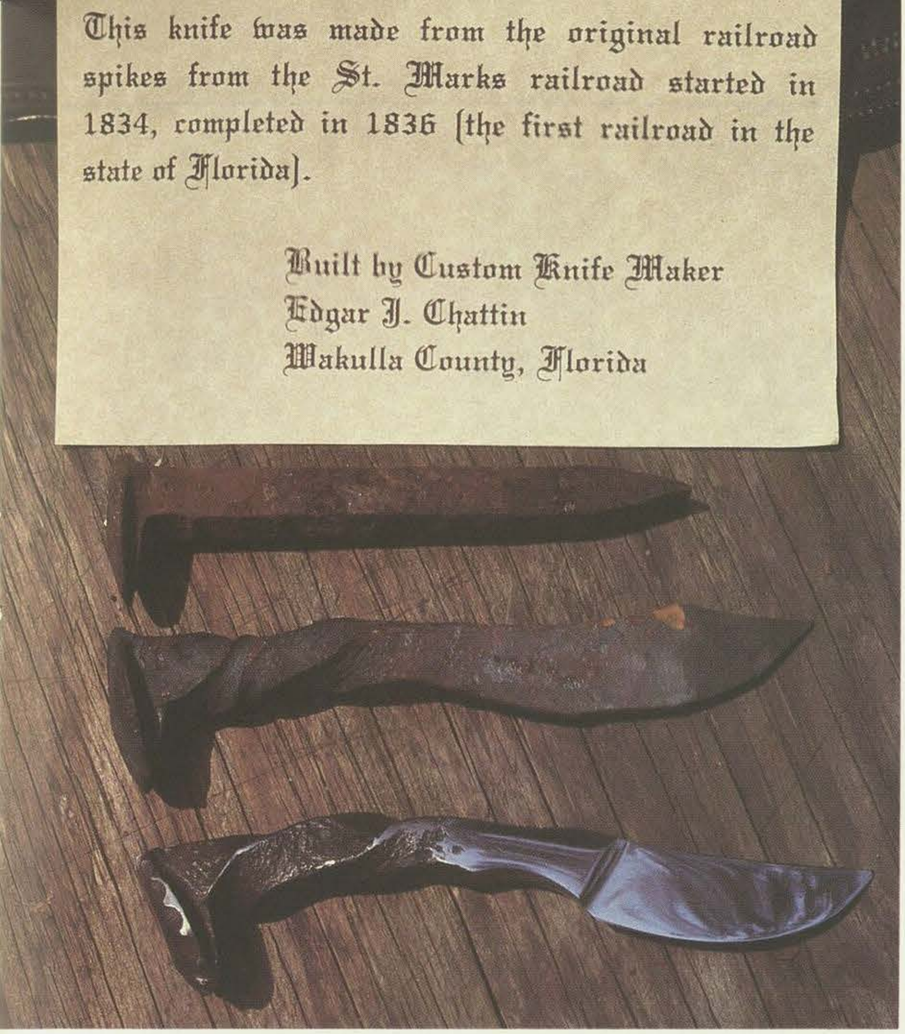
Fishing in the coals with a pair of tongs, he pulled out a glowing, red-hot spike. Then with a large wrench he put a full twist in the hot metal like it was soft taffy. The twist became part of the handle. The process continued later with the beating out and tempering of a wide blade.

The rest of Chattin's knives are also unique. They comprise a blend of carefully chosen materials and fine craftsmanship. Handles made from black walnut, cherry, ebony, cocobolo and African purple heart are selected to match metals of every source from old files and sawmill blades to Damascus steel. The wood grain flows with the curve of the blade to achieve a balance in weight and image.

In other styles a polished piece of deer antler provides a firm grip for a



Chattin's creations range from pocket knives to machetes to meat cleavers.



This knife was made from the original railroad spikes from the St. Marks railroad started in 1834, completed in 1836 [the first railroad in the state of Florida].

Built by Custom Knife Maker
Edgar J. Chattin
Wakulla County, Florida

(left) *Chattin turned spikes from the St. Marks railroad into knives.*

Chattin's knife-making skills were passed from father to son to grandson.

hunting knife. He also makes folding knives that fit together smoothly, miniature knives strictly for collectors and rugged skinning knives for heavy field use.

Collectors have carried his knives to every state and numerous other countries, including Australia, Germany, Japan and Saudi Arabia. His knives are hard to resist for anyone who takes part in an outdoor activity or appreciates fine craftsmanship. In fact, Gov. Lawton Chiles bought a knife during a chance encounter with Chattin on a turkey hunting trip.

Chattin practices another ancient art: archery, and as with his knives, he does it to perfection. In a way, considering their origins, knife-making and archery are a natural match.

He repairs bows, sells equipment and gives archery instructions. During hunting season he uses the bow and arrow the way it was first intended: to put food on the table.

Outside of hunting season he stays sharp by taking part in archery competitions and has earned 11 individual state championships in men's traditional bow and arrow events.

It's a family thing. Chattin's son, Eddie, has been state champ in youth and young adult divisions 16 times and was Southeastern United States champion twice. His daughter, Wendy, has been state champ five times, and his stepson, Brett Wilson, has been a state champion in both the youth and young adult divisions.

Chattin passes on other virtues. From volunteering as a hunter education instructor to picking up the garbage dumped by uncaring visitors to the woods, he sets an example for ethical use of the outdoors.

While I was at his shop, a vacationing Georgia judge and his two children stopped by. They had seen Chattin's small sign on the highway and were intrigued enough to follow the road through the woods. The sight of the hunting knives on display and the red-hot forge in operation fascinated them.

Chattin took a break to entertain the children by making quarters disappear into his arm and magically reappear behind the children's ears. Somehow it wasn't surprising to see the woodsman/artisan become a magician.

Knife-making hasn't made him rich, but Chattin's philosophy is that there are different types of wealth. "Being rich is a state of mind, I can eat until I get full, sleep when I want, and above all, go hunting and fishing when I want to. That's rich."

You can see him most weekends at the flea market south of Tallahassee, contact him at (904) 926-8058, or you can take a short ride down a dirt road off S.R. 267 in Wakulla County.

I have one of Chattin's spike knives on my desk, and every once in a while I'll pick it up, feel its weight and look at the top for evidence of the hammer blows delivered by "steel-driving men" over 150 years back. It's a connection to the past, not unlike the craftsmanship and individualism of Edgar Chattin.

Richard Farren is vice president of the Florida Wildlife Federation and a free-lance writer.

The Story of Randall Made Knives

By Dominique Beaucant

His beautiful knives have appeared in museums and flown in space.

The story of Randall Made Knives, now one of the most popular brands of handmade knives in the United States and the world, began in 1937 when Florida orange grove owner Walter Doane "Bo" Randall took a fishing trip to Michigan. Randall found a man scraping paint off the bottom of a boat with a beautiful blade fashioned by William Scagel, whose knives are now collectors' items. He admired the knife so much that he bought it, then set out to make one of his own.

Back at home near Orlando, Randall found an old automobile spring in his workshop and asked a local blacksmith to rough-forge a blade from the scrap. A salesman saw the finished product and begged Randall to sell it to him. This was the first of thousands of knives this entrepreneur sold from his workshop. Though Bo Randall died in 1989, his son Gary continues to fill orders for the many styles of knives they designed and perfected.

Randall always considered knife-making to be his hobby, something he pursued in his spare time from the citrus business. Yet many prominent Americans have been keen to own Randall Made Knives. These knives have permeated American culture — showing up in comic strips, movies and television; soaring into outer space with the seven Mercury astronauts; even appearing in the Museum of Modern Art and the Smithsonian Institution.

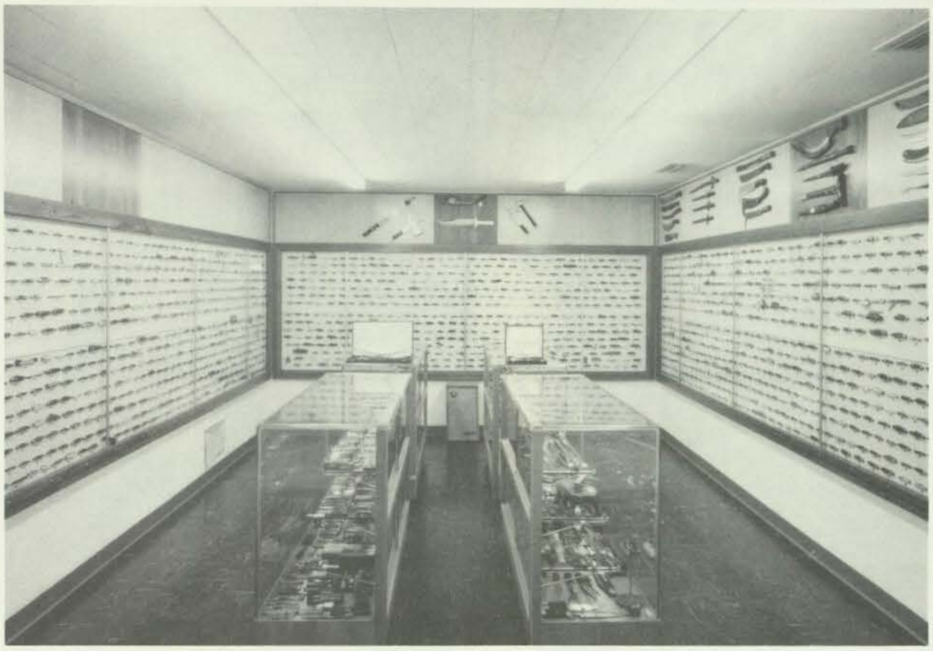
Though Randall Made Knives first earned a strong reputation as hunting and fishing knives, Randall recognized that the soldiers of World War II needed a reliable knife for use in combat situations. At this point he expanded his staff to fill the orders rolling in from servicemen. Later, during the Vietnam War, Randall collaborated with an Army captain to design a survival knife with special features, like a sawtooth on top of the blade and a hollow, waterproof handle.

Since this craftsman fashioned that first knife from a car spring, his work has gained recognition as a superlative example of the craft. Randall Made Knives have won the esteem of both the general public and the discriminating collector. Most contemporary knife-makers credit Randall with the superb craftsmanship that influenced the industry internationally.

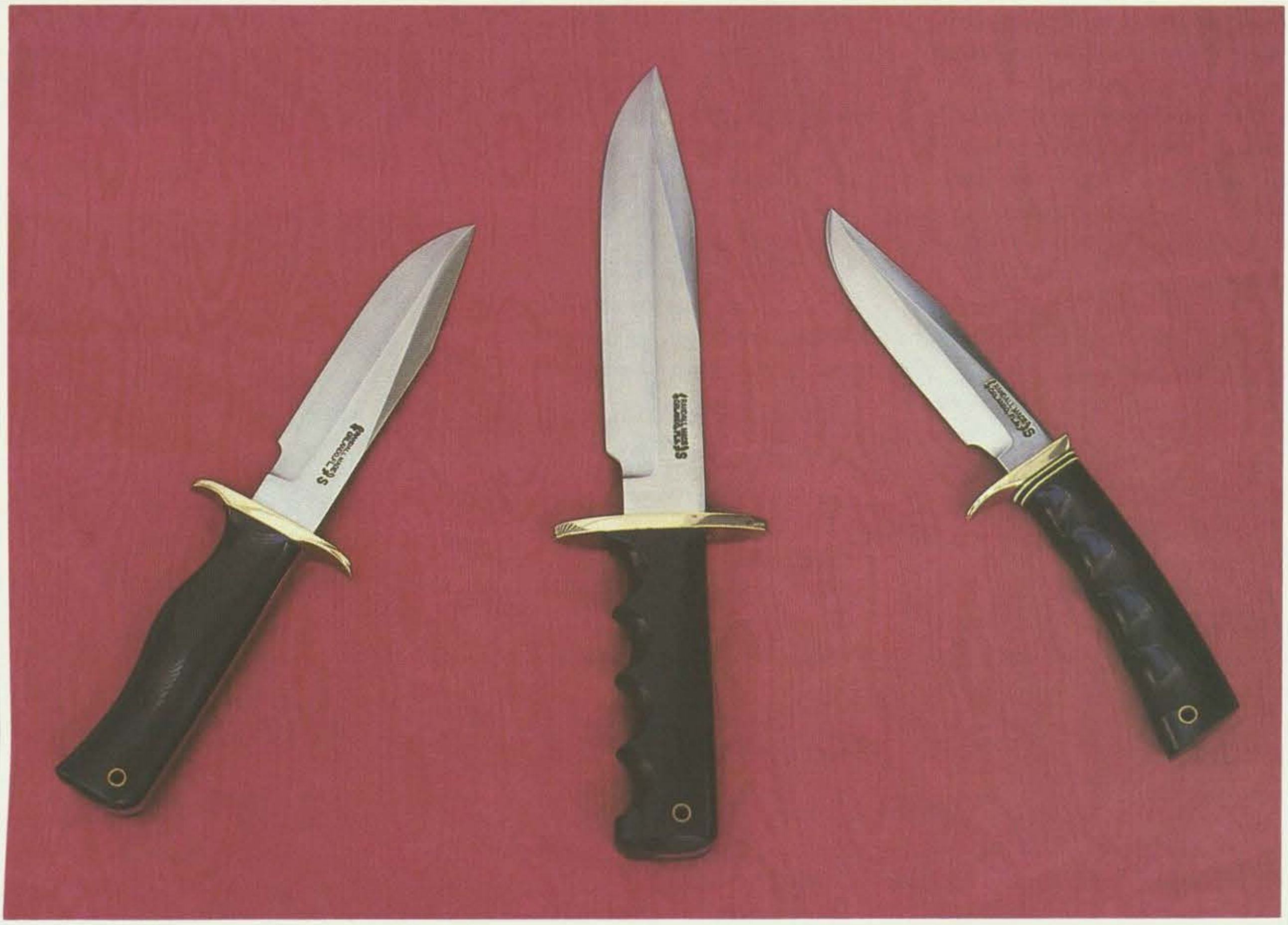
A finished Randall knife is a work of art and a source of pride, not only for Bo Randall and his craftsmen, but also for its owner. What started out as Bo Randall's hobby has become a legend, and son Gary T. Randall will make sure that the legacy of Randall Made Knives continues.

Dominique Beaucant is an avid admirer of Randall Made Knives and has written about them for several international magazines.

More than 7,000 Randall Made Knives are on display at the company museum in Orlando.



(below) Demand is so great for these custom-made knives that there is a 17-month waiting period for completion of orders.



PEGGY PERKERSON

Florida's Hidden Treasures

Where you can find bows, knives and history

Text and Photographs by Carolee Boyles-Sprenkel

Set foot in the Fred Bear Museum in Gainesville and you'll know it. This is not a place of dusty pot shards and musty books. Just inside the door, a massive lion grips a cape buffalo, claws extended, mane flared. No ho-hum excursion into the dead past this — it's a window into the realities of life in forest and field.

Continue upstairs in the museum and you'll find wooden bows that go back hundreds of years. Dozens of wildlife species from all over the world lurk in the halls. Stop at some of the visitor-activated interpretive displays for a lesson on the history of hunting.

The Fred Bear Museum, located in the Bear Archery factory building, is one of many small natural history museums and outdoor collections around the state. Quite a few Florida nature centers display fascinating bits and pieces of old and new hunting and fishing gear, all manner of outdoor memorabilia and local history.

Take, for example, the Bagley Bait Company's Museum of Fishing. Located in Winter Haven, the museum houses everything from an exhibit of big bass to a display on the history and development of fishing line. Many of the displayed items are on loan from fishermen, outdoor writers, artists and other outdoorsmen and women from all over the country.

There's more outdoor history at Randall Made Knives in Orlando. There, in a small museum dedicated to the art of weaponry, is a collection of more than 7,000 knives of every conceivable kind.

The biggest problem with these places is that they're hard to find. Few belong to any statewide association that publishes lists of where they are; locating them often is just a matter of luck.

What follows is a list of some of these museums; there are many others devoted to natural history or the outdoor life. Next time you're trapped inside on a rainy day or traveling from one end of the state to the other with a couple of restless kids, stop in at one for a visit.

We purposely have not included state parks, forests, federal refuges or state museums that are more easily located. Listings for state parks are available through the Department of Natural Resources; most tourist attractions and large museums are listed under "attractions" in the yellow pages, or with local chambers of commerce.

Call ahead; some of these facilities charge a small fee, and hours may vary.

Carolee Boyles-Sprenkel is a free-lance writer specializing in hunting, fishing and other outdoor recreational topics. She is president of Florida Outdoor Writers Association.

North

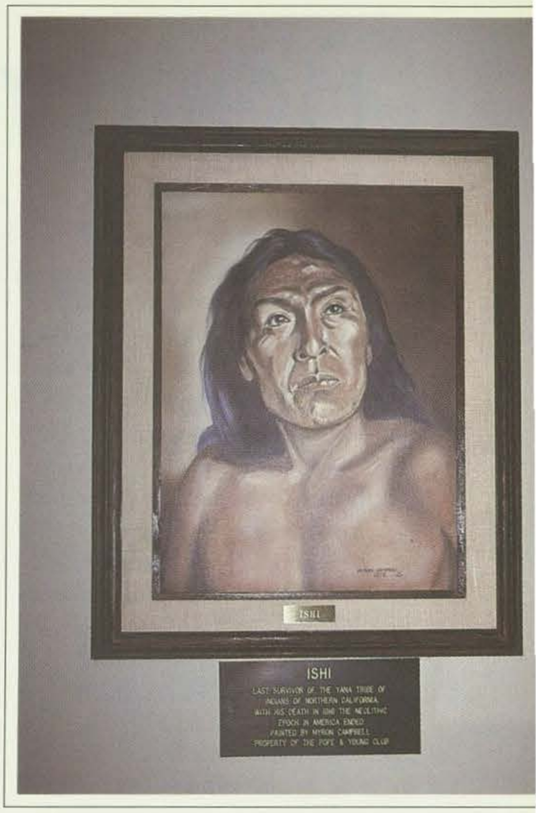
Indian Temple Mound Museum
139 Miracle Strip Parkway
Ft. Walton Beach, FL 32548
(904) 243-6521

Museum of Man in the Sea
17314 Back Beach Road (U.S. 98)
Panama City Beach, FL 32413
(904) 235-4101

Destin Fishing Museum
35 U.S. 98 East
Destin, FL 32541
(904) 654-1011

Museum of the Sea and Indian
4801 Beach Hwy
Destin, FL 32541
(904) 837-6625

Fred Bear Museum
Fred Bear Drive at Archer Road
Gainesville, FL 32601
(904) 376-2411


ISHI
ISHI
LAST SURVIVOR OF THE YANA TRIBE OF
INDIANS OF NORTHERN CALIFORNIA.
WITH HIS DEATH IN 1916 THE NEOLITHIC
EPOCH IN AMERICA ENDED
PAINTED BY MYRON CAMPBELL
PROPERTY OF THE POPE & YOUNG CLUB

A portrait of Ishi, last survivor of the Yana tribe, hangs in the Fred Bear Museum.

A cross fox from Alaska and some of Fred Bear's bows.

Central

Brevard Museum of History
and Natural Science
2201 Michigan Avenue
Cocoa, FL 32926
(407) 632-1830

Harbor Branch
Oceanographic Museum
5600 Old Dixie Hwy.
Ft. Pierce, FL 34946
(407) 465-2400

Mulberry Phosphate
Fossil Museum
S.R. 37 South
Mulberry, FL 33860
(813) 425-2823

Randall Made Knives Museum
4857 South Orange Blossom Trail
Orlando, FL 32839
(407) 855-8075

Museum of Fishing
(Bagley Bait Co.) P.O. Box 810
Winter Haven, FL 33882
(813) 294-4271

CMSC Aquarium Museum
249 Windward Passage
Clearwater, FL 34630
(813) 441-1790

Spongeorama Exhibit Center
510 Dodecanese Blvd.
Tarpon Springs, FL 34689
(813) 942-3771

South

Everglades Wonder Gardens
Old U.S. 41
Bonita Springs, FL 33923
(813) 992-2591

IGFA Fishing Hall of Fame
1301 E. Atlantic Blvd.
Pompano Beach, FL 33060
(305) 941-3474

Butterfly World
3600 W. Sample Road
Coconut Creek, FL 33073
(305) 977-4434

Museum of Archaeology
203 SW 1st Avenue
Ft. Lauderdale, FL 33301
(305) 525-8778

Florida Pioneer Museum
826 N. Krome Avenue
Florida City, FL 33034
(305) 246-9531

Key West Aquarium
1 Whitehead Street
Key West, FL 33040
(305) 296-2051

Audubon House and Gardens
205 Whitehead Street
Key West, FL 33040
(305) 294-2116

Boating Accidents

Prevention and Investigation

By Mary M. Davis

The rising sun illuminated a harrowing scene. A small outboard motorboat, tattered and littered with beer cans, floated at lake's edge. The operator's bloodied body lay motionless in the stern. A Labrador retriever, cold and wet, with cuts on her face and abdomen, kept watch over her master's body.

When law enforcement officers arrived, they discovered that someone had covered the body with a blanket, tied the dog to the steering wheel and moved the boat away from a ramp to permit public access. Had a well-meaning citizen obscured or destroyed clues regarding how and why this tragedy occurred? Had a crime been committed? And most importantly, could the death have been prevented?

To combat Florida's surging boating accident rate and deal with the increasing complexity of boating accident investigations, the Florida Game and Fresh Water Fish Commission recently increased its boating accident investigation staff from 64 to 78 and launched a focused accident-prevention program.

"Florida had 103 deaths on its waterways in 1991," said Capt. Bob Poole, boating law administrator for the Commission. "It's vital that investigators accurately determine the causes of accidents so we can focus our educational efforts to prevent them."

Boating Accident Investigations

To train boating accident investigators, the Commission conducts a 40-hour school at the Law Enforcement Training Center in Quincy.

"We take what wildlife officers initially learn in our training academy a few steps further," Poole said. "Boating accident investigators must ask 'how' and 'why' and do some sleuth work. Boating accident scenes will always be disturbed, simply because the boats involved drift from where the accident took place. There won't be skid marks, like at an auto accident scene. The investigator has to reconstruct what happened based solely on damage to the boats and witness accounts, if there are witnesses. Boating accidents are very complex and require lots of time to investigate.

"It's important that people not disturb an accident scene unless a life is at stake," Poole added. "Without knowing it, they might destroy clues to the cause of the accident or obscure evidence needed in a criminal investigation. Anyone witnessing or involved in a boating accident should contact the Commission or the Florida Marine Patrol."

Investigators learn about boating law and specialized techniques for photography, interviewing, scene-sketching and accident reconstruction. Each investigator receives a kit containing a camera, measuring devices, compass, calculator, tape recorder, drawing templates, marking tape, forms, body covers and other important equipment.

"It gets even more complicated when an accident scene is also a crime scene, as they often are," Poole said. "Investigators in a criminal investigation must follow different procedures. The scene then is subjected to two thorough investigations, rather than one."

Florida is one of few states with laws against vessel manslaughter and vessel homicide.

GFC

It often takes 100 hours or more to investigate accidents such as this.

To help investigators learn to detect the causes of accidents and decide when an accident site is also a crime scene, Poole stages mock boating accidents for investigator trainees to examine. Commission public information officers even pose as news reporters and spectators to add realism to the exercise.

"Boating accidents become news if there are severe injuries or deaths, so our investigators must learn to provide what information they can to the media while maintaining the integrity of the accident scene and protecting the identities of victims," Poole said.

The Commission initiated its boating accident investigator training program in 1988 to help wildlife officers with these time-consuming investigations.

"Take one wildlife officer with three accidents to investigate — he's no longer a wildlife officer, he's a full-time boating accident investigator," Poole said. "Investigations often take 100 hours or more, plus time in court if charges are filed. And sometimes, a civil suit is filed and our investigator must testify."

Florida's boating accident investigators are stationed throughout the state, with concentrations in areas with high accident rates.

"Currently, boating accident investigators function as wildlife officers, but they take on all freshwater boating accidents in their area," Poole said. "We foresee needing dedicated investigation positions in the future to meet the needs of Florida's growing population."

Boating Accident Prevention

Boating accident prevention is a major goal, and Commission investigations indicate that boating under the influence of alcohol and careless operation are major contributors to Florida's boating accident deaths. Commission reservists and boating accident investigators, who double as boating safety enforcement officers, make informing the public about these dangerous actions a priority.

Reservists are volunteers who donate their time and purchase their own uniforms and equipment to assist the Commission's law enforcement, fisheries and wildlife programs. Reservists conduct courtesy safety equipment inspections at boat ramps throughout the state.

"We offer courtesy inspections at boat ramps for two reasons," said Lt. Chuck Gaylord, the Commission's reserve coordinator. "These inspections might save the public time and money by alerting them to equipment deficiencies before they hit the water. Some insurance companies offer discounts to boaters who have passed safety inspections. And most importantly, the inspections might help save lives. Safety equipment is required for good reasons, and we welcome opportunities to explain why."

When a boating safety enforcement officer stops a boat on the water for inspection, it is no longer a matter of voluntary compliance. If required equipment is not there, the law has been violated and officers will issue written warnings or citations. Officers also are authorized to conduct a sobriety test if they believe the vessel operator is intoxicated.

Poole estimates that 20 percent of Florida's boating accidents and fatalities are alcohol-related.

"The dehydrating effects of wind, water and the sun make people drink more, and with wave action and all the fun they're having, they often don't realize they've become intoxicated," Poole said.

To research this article, I accompanied boating safety officers/accident investigators John Burton and Hank Starling as they made their rounds on the St. Johns River last July.

When Burton stopped a pontoon boat leaving the pristine Silver Glen Run on Lake George, he noticed its occupants drinking beer. Drinking while boating is legal in Florida; however, boating while under the influence of alcohol or drugs is not.

While inspecting the boat for safety equipment, Burton observed the operator's ability to follow directions, his balance, hand-eye coordination and speech. The officer decided to conduct an official sobriety test on land.

The pontoon boat, driven by another passenger, docked at a small island nearby, and Burton asked the original operator to come ashore. After a few tests, Burton determined that he was not intoxicated, but cautioned him on alcohol's particular effects on boaters.

"I suggest that you not drink any more if you plan to continue boating," Burton advised.

Inspections also give officers an opportunity to offer other suggestions to prevent accidents and improve the passengers' chances of surviving an accident.

Starling offered this scenario to boaters he stopped to inspect in the river.

"Let's say somebody out here is intoxicated and doesn't see your boat as he comes around a bend in the river. He's headed right for you at high speed, and he's only 20 yards away. You can't get out of the way in time. Do you think you'll have time to put on your life preserver?" he asked.

Starling and the boaters knew the answer: *No*. The life preservers were packed away in the console, under the anchor and extra fishing gear — certainly not easily accessible if an accident was impending.

"It isn't enough to know that *you're* a safe boater. You've got to act like other boaters aren't as conscientious," Starling said. "It's best to wear your life preserver, because then, if you should need it, it's right where it's supposed to be. And, drive defensively on the water."

The sun began to set in the west, casting an orange glow on the river and providing some relief from the sweltering heat. Starling and Burton, who had patrolled the St. Johns River since early morning, called it a day.

"A lucky day," Burton said, removing his life preserver. "Any day without a boating accident, and especially a death, is my lucky day. We see too many tragedies out here on the water, too many that could be prevented."

[Editor's note: For more information about the Commission's boating safety or accident investigation training programs, call (904) 488-6257.]

Sculptor Martin Gates

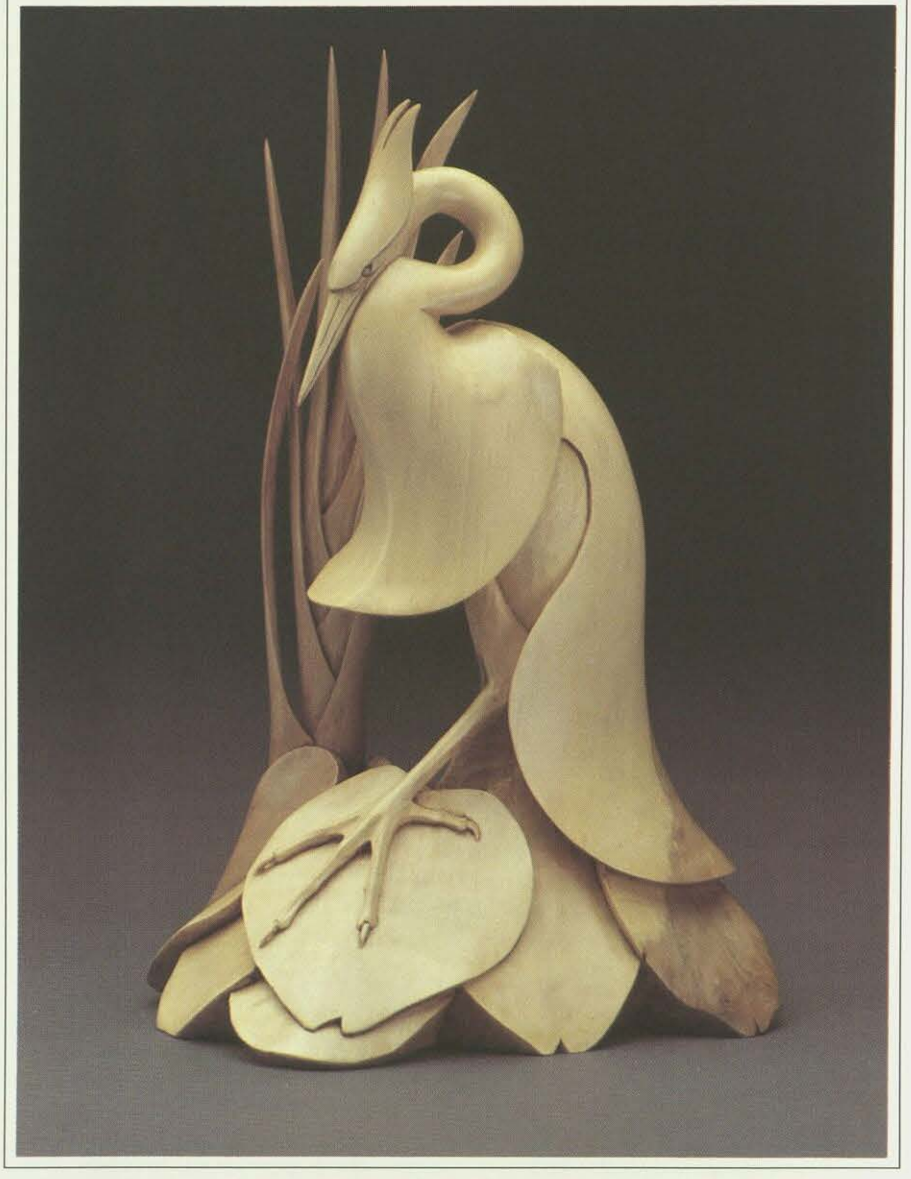
Martin Gates, named Featured Carver of the Year (1992) at the prestigious Southeastern Art Exposition, is a virtual newcomer to the art world. His singular renditions are striking and modernistic.

He first began carving wood as a child, using his grandfather's tools and scraps from the firewood pile. It was a passing fancy, and he did not actually consider learning the craft until years later, when he attended a two-week wood carving class. After that, he apprenticed with Dan De Mendoza, a noted wildlife miniature woodcarver. Gates soon expanded his knowledge of restoring antique furniture and then began carving decoys and other fine woodworking.

Gates captured top honors in his first competition in 1987 with "Snowy Essence" (a modern mahogany piece). This stylized interpretative piece took first place in a world class category at the premier Wards Foundation World Championship.

Gates uses hand tools when working the wood, letting the textures and whorls define the subject of the carving. Often selecting birds as his theme, he portrays them in smooth, flowing lines. Gates begins with a solid block of walnut or cherry that he may transform into soaring pheasants flying out of the sculpture's stylized base. Or, he may capture a moment of a blackbird's song as it seemingly sways on a bending cattail. Whatever the subject, his creative sculptures are unique interpretations of Florida's rich natural resources.

–Andrea H. Blount



Heron, a stylized 7-inch-tall sculpture made of holly.

Sculptor
Johanna Drummond

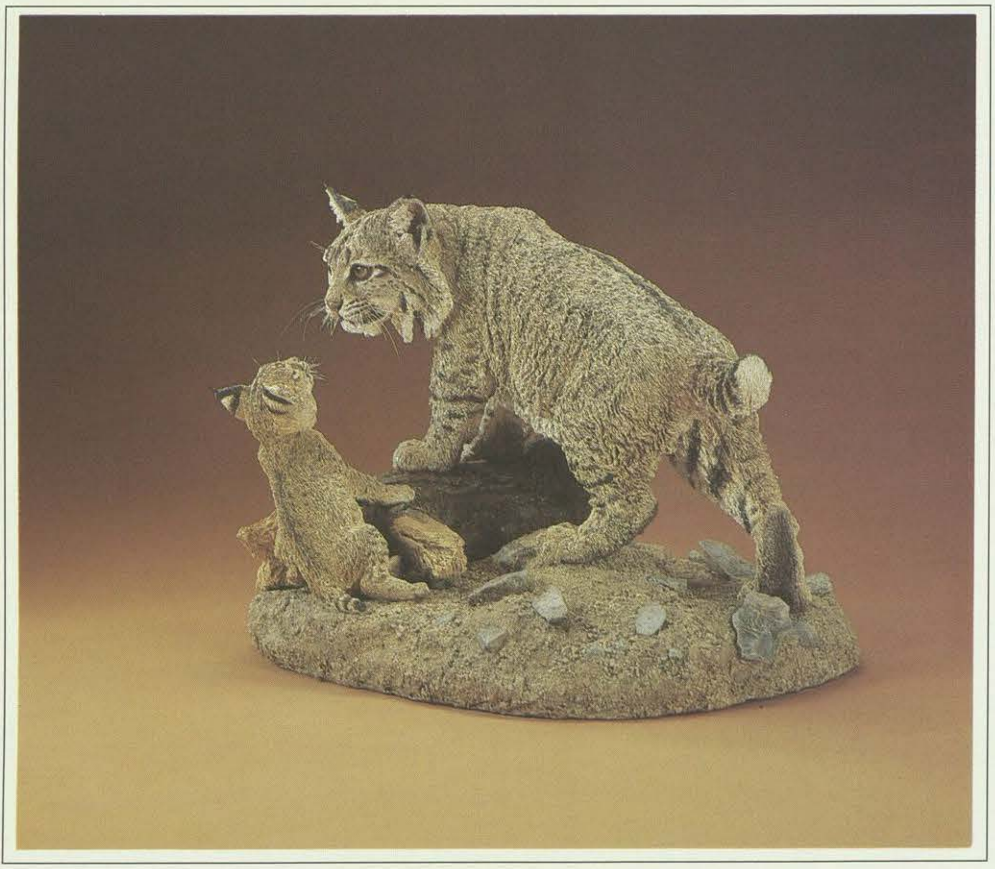
Johanna Drummond has been named the Southeastern Wildlife Exposition's 1993 Featured Sculptor. Each year the art show's jury selects one painter and one sculptor or carver to feature at the art show and in their promotional materials. These artists are selected from past juried participants. Although past honorees have worked in wood, Johanna Drummond transforms blocks of clay into finely detailed, realistic wildlife sculptures.

Her meticulous attention to detail is apparent in the way her small creations look as if they were made of fur, rather than clay. She painstakingly paints the animal's body, but her trademark is her treatment of creating lifelike eyes. Detailing eye coloration with tiny brushes, she sometimes paints layer upon layer of color with fine brushes with as few as one or two hairs. She then applies a coat of lacquer to the eyes and nose to create a moist appearance.

Unlike most ceramic sculpture, each piece is an original; no molds or casts are made for mass production. This "former hobbyist/painter" lives in Longwood and regularly visits area wildlife rehabilitation centers for inspiration.

She hopes her art will encourage conservation efforts for our planet's numerous endangered species.

–Andrea H. Blount



Bobcat and Kitten.

Sculptor Jack Borres

Jack Borres *makes* his wildlife trophies instead of bagging them in the wild.

His most famous "catch" was a realistic carving of a largemouth bass subsequently purchased as a gift for Jimmy Carter. In a story for the St. Petersburg Times, columnist Jeff Klinkenberg said the fish "seemed real enough to broil in butter and onions." His work is also displayed in the private collections of other notables like the DuPont and Henry Fonda families.

An avid angler, he takes time to sample the area's fishing spots when traveling to art shows. The circuit takes him all over Florida and throughout the Southeast, where he's garnered numerous ribbons and found loyal customers.

He loves to be out-of-doors and enjoys visiting wildlife refuges and rehabilitation centers where he can study his subjects at close range. His first sculptures were created partially from childhood recollections of Pennsylvania animals, but now his subjects are mostly Florida species. He works with delicate woodworking knives and tools for detailed pieces and with chain saws for larger pieces.

Borres made his livelihood as a carpenter before retiring to enjoy the freedom of becoming a jack-of-all-trades. Included in that listing of time and talent expended are numerous private lessons and public classes on wood carving, or teaching health and fitness at Pinellas Junior College.

–Andrea H. Blount

Largemouth Bass, now owned by former president Jimmy Carter.

Sculptor Louis Coleman

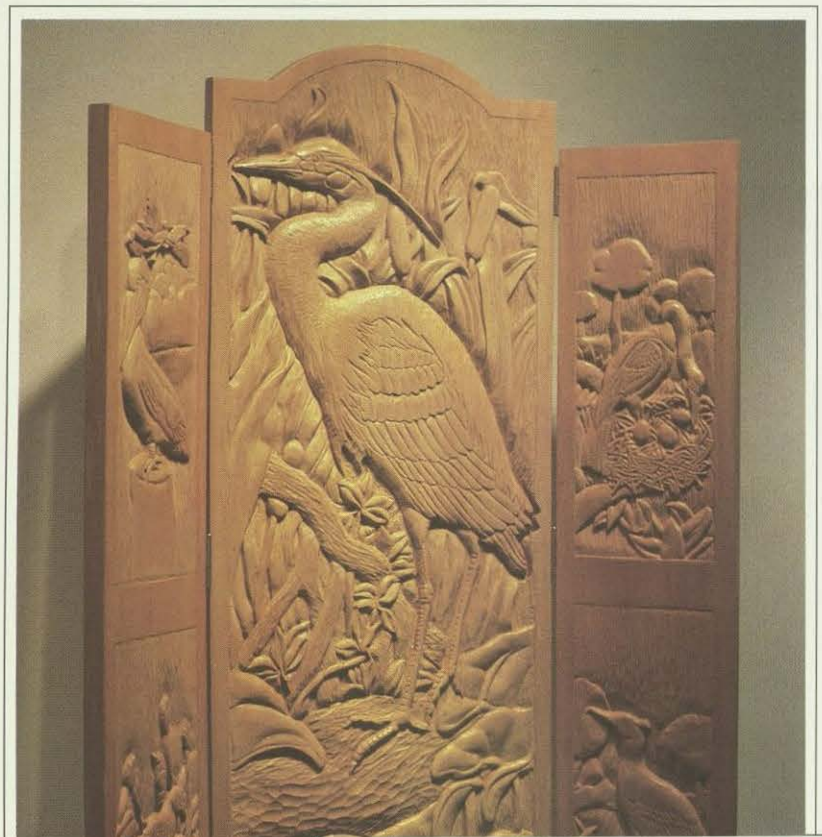
Louis V. Coleman carved his own retirement gift — a mortar and pestle to represent 50 years of practicing pharmacy in Florida. But his retirement led him to his avocation — wildlife sculpture.

An ardent wildlife enthusiast, he often depicts realistic Florida birds and other wildlife in natural settings. Coleman specializes in bas relief sculpture.

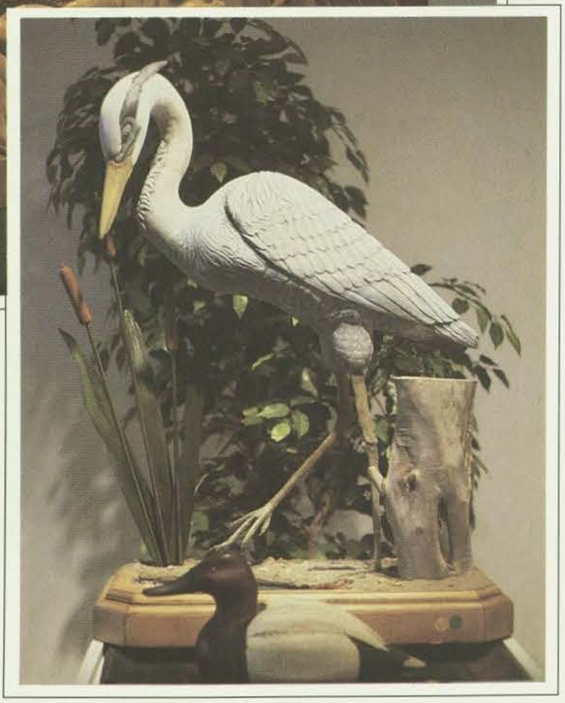
A third-generation Florida Cracker, he comes from a long line of outdoorsmen. A self-taught artist, Coleman used to whittle time away when he and his wife took annual vacations to his 120-year-old North Carolina farmhouse. But soon he was captivated by the craft and decided to take carving more seriously. Now he works at it nearly full time, keeping a studio at his Melbourne, Fla. home as well as in rural Hendersonville, N.C.

Coleman studied at the Swiss National Academy of Wood Carving to hone his skills. He carves numerous song birds and wading birds, a variety of wild and garden flowers, fanciful carousel ponies, decoys and special orders for seasonal displays. He's "a young 76-year-old" who willingly shares his skills in workshops and classes and with many satisfied customers.

–Andrea H. Blount

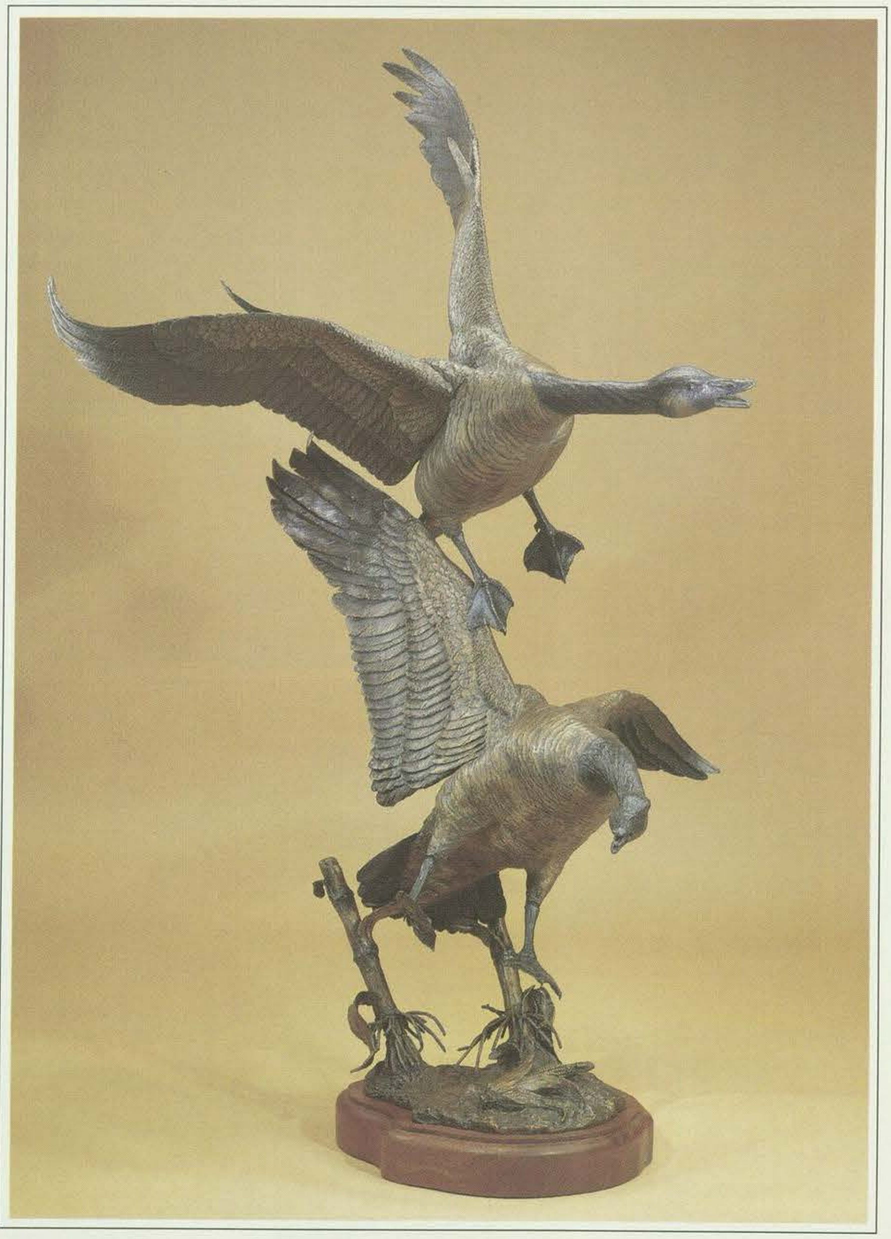


"Feathered Splendor," a carved screen, measures 60 by 48 inches.



Blue Heron free-standing sculpture.

Sculptors
William and David Turner



Canada Geese.

The hallmark of this father and son team of bronze wildlife sculptors is their ability to capture wildlife in natural settings at just the right moment in time.

William H. Turner, D.D.S., a native Virginian, graduated from the University of Virginia and the Medical College of Virginia. His son, David, is a William and Mary graduate who decided to follow in his father's footsteps, bringing his own sense of creativity to the art.

They receive specimens through wildlife rehabilitation centers as their models and strive to preserve the beauty, grace and rarity of each species.

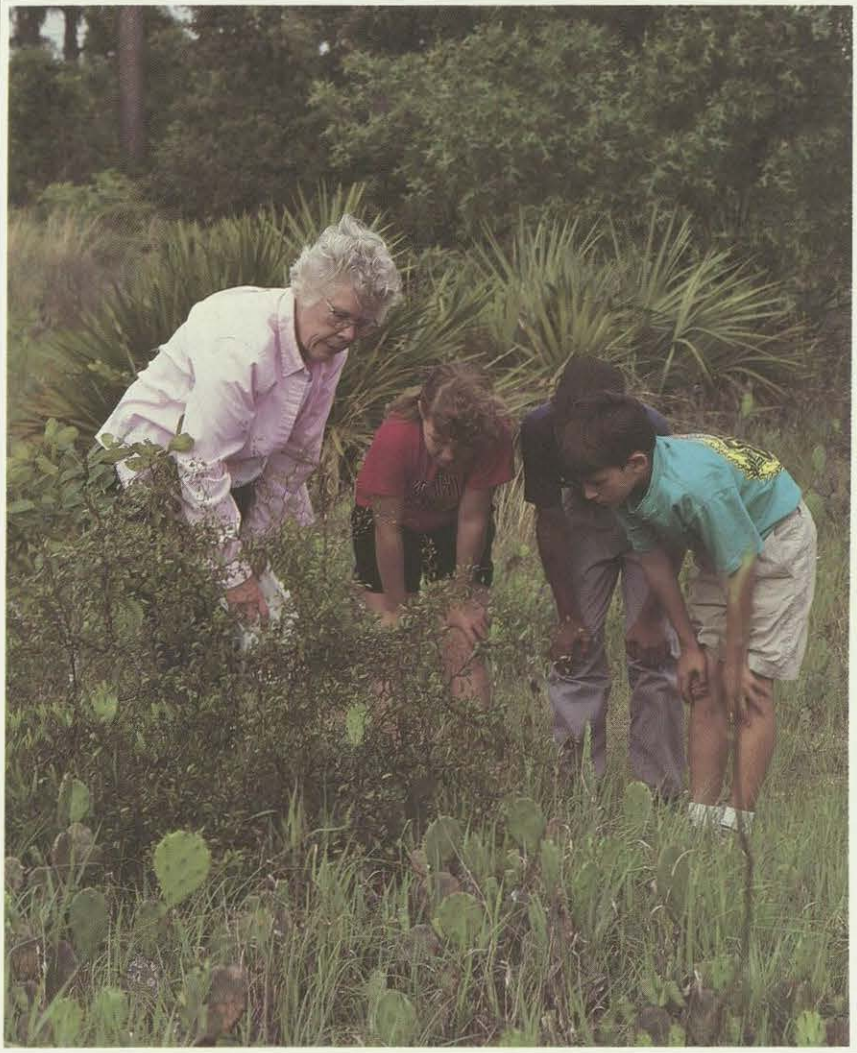
The Turners hold shows throughout Florida and the east coast while maintaining an active foundry and gallery on the eastern shore of Virginia.

They provide a broad range of art work that includes pieces for collectors, investors and public groups wishing to commission a one-of-a-kind sculpture.

Several of their most noted commissions are shown on college campuses and in zoos and public gardens. Some notable exhibits include an eagle, sculpted in memory of Charles Lindbergh, now in Minnesota's Lindbergh Museum; a pair of dolphins and a loggerhead turtle at the Brookfield Zoo in Chicago; a dolphin fountain at Mystic Seaport in Connecticut; a flock of Canada geese for the Chicago Botanical Garden; a life-size bear with cubs in Naples; and a 20-foot-tall family of dolphins in the Esperante Building in West Palm Beach.

They seem to have found their own artistic way of bridging the generation gap.

—Micheal D. Jernigan



The Scrub Plum Nature Trail

A Conservation Success Story

By Lenela Glass-Godwin
Photographs by James C. Godwin

On a cool, January morning in the small, Polk County community of Babson Park, a number of school teachers, school administrators and representatives from state resource agencies and private conservation groups gathered at the local elementary school. Despite their diverse backgrounds, they had one thing in common — each was personally invited to attend a "Scrub Plum Workshop" by a dynamic, dedicated lady named Virginia McKinley.

McKinley has enjoyed a varied career ranging from teaching music in public schools, to nursing, to selling real estate. Her purpose here, however, was to galvanize workshop participants into carrying on her dream — to develop outdoor classrooms for school children while simultaneously protecting Florida's unique habitats. To accomplish this goal, she assembled a group to view a successful project that she and other interested conservationists and community church members brought to fruition.

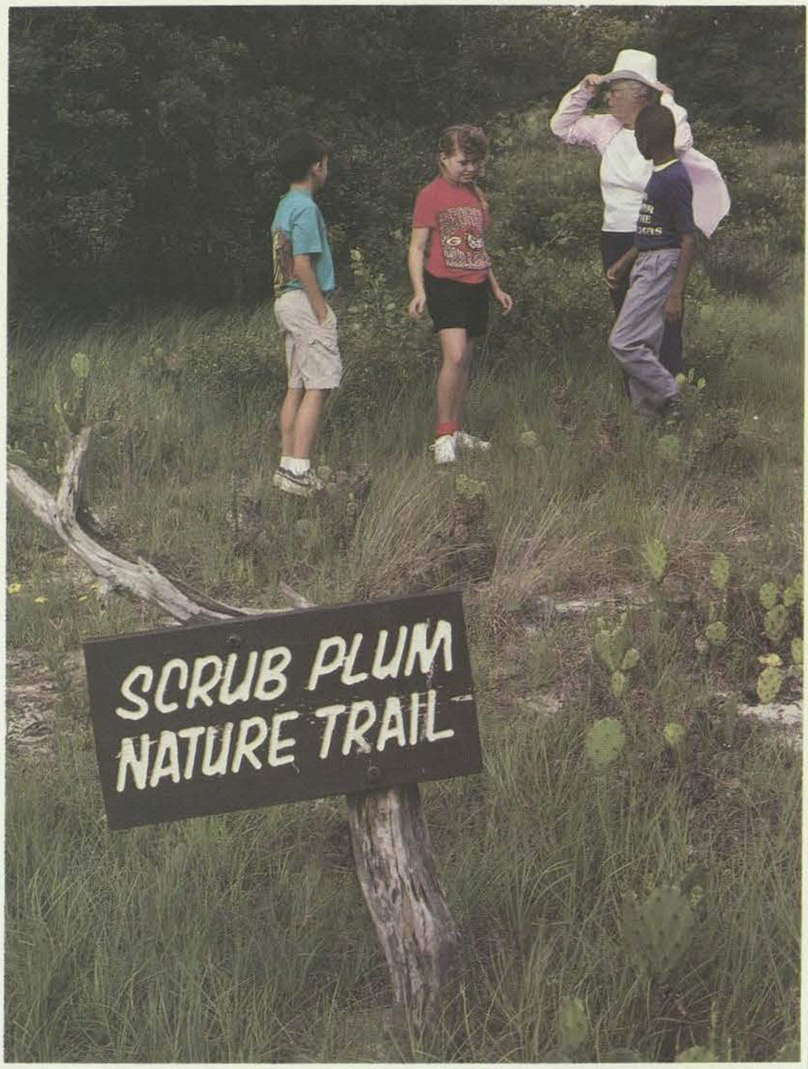
"I brought the idea for the Scrub Plum Nature Trail before the Community Church Board of Trustees in 1988," McKinley recalled. "This idea was a year in the making." The church owned a six-acre parcel of undeveloped scrub and sandhill habitat adjacent to their building. At the time, the trustees were considering several options, including bushhogging the property. After learning of the value of the area as a nature sanctuary and outdoor classroom, the trustees appointed a committee of six people to develop a plan for the land's use. Local naturalists Ken and Helen Morrison began to inventory plant resources on the site, assisted by their son, Steve, a preserve manager for the Nature Conservancy.

Pleasant and surprising finds awaited the plant survey team, for three endangered plants turned up, most ▷

notably the scrub plum (*Prunus geniculata*). Steve reported the unusual density of scrub plums — more than 30 plants in sections of the parcel — to the Nature Conservancy. Eventually the Conservancy added the Babson Park property to its National Register of Significant Natural Areas.

As one might expect, the church and community quickly developed a great deal of pride in "their" scrub. Volunteers mapped and cleared trails, and Ken Morrison penned a trail guide. Thanks to McKinley's untiring efforts, and with enthusiastic assistance from Principal Dale Fair and Assistant Principal Faye Smith, elementary school students soon were visiting the Scrub Plum Trail on a regular basis — and loving it.

"They didn't know what was there!" McKinley exclaimed. "Many of the students and adults are truly seeing these plants and animals for the first time. The church, the community and the school children have become very proprietary about the scrub and sandhill."



Virginia McKinley accompanies students along the Scrub Plum Nature Trail.

Lesson plans for fourth grade students, the pilot group in the outdoor classroom, were developed in 1989 and have been used since that time. From January through March 1990, the fourth-graders took weekly trail walks. Additional field trips for grades K-5 were scheduled as requested. Program coordinators estimated at least 600 pupil/hours were spent in the field during 1990.

Although it is much more difficult to assess the students' changes in attitudes and conservation values than to measure their increase in knowledge, founders believe conservation efforts like this one really work.

"We are convinced that regularly scheduled outings in a natural setting, conducted by enthusiastic naturalists/ teachers, change attitudes and values," McKinley wrote in a 1990 annual report to the church. She added that using community volunteers for grassroots support effectively promotes "environmental awareness and activism while providing willing parents and grandparents with an exciting, meaningful service activity."

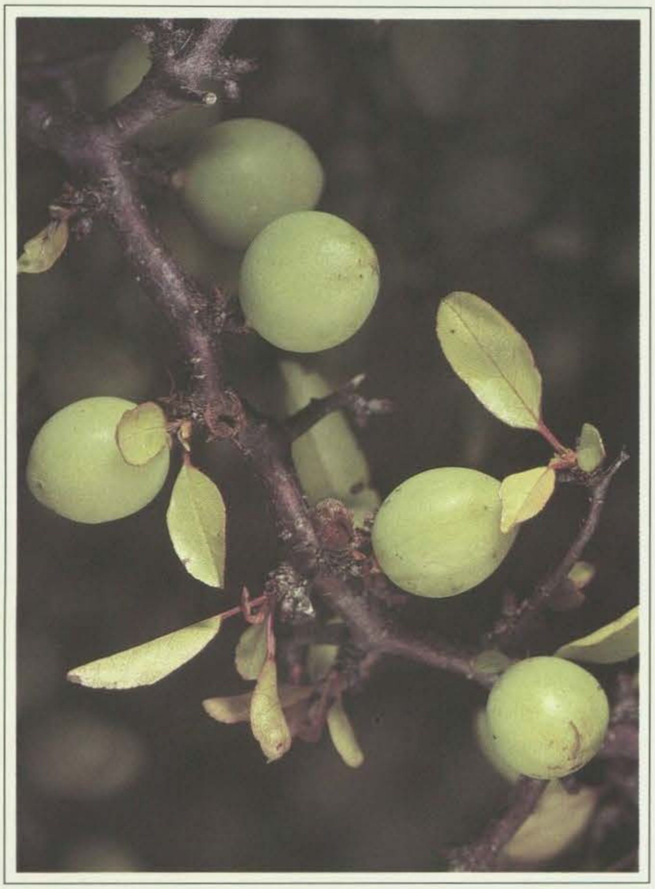
McKinley firmly believes that experiencing the environment is the best way to teach about it. This philosophy guided her development of the Scrub Plum Trail Project.

"People learn in different ways, and before I try to teach any subject, I think about how *I* learn. The Scrub Plum Trail Project has benefitted the students greatly, just as regular visits to any area would benefit any of us. It has increased their appreciation of their home area so much." This newly found appreciation helps change attitudes and promote stewardship of the land.

Not content merely to benefit her own community in such a significant way, McKinley is reaching out to surrounding areas and schools in Polk County, and all of Florida, through a documentary video on the Scrub Plum Project. A grant from the Florida Advisory Council on Environmental Education funded production of a 30-minute tape chronicling the history of the project and showing volunteers, teachers and students interacting in the scrub and sandhill as well as in the classroom.

In watching this video, anyone can tell that environmental education is undoubtedly taking place. Comments from the students are genuine, unrehearsed. It's evident that the children love walking through the natural

Scrub plum in bloom.



Fruit of the scrub plum.

community and are really interested in learning about the scrub plum habitat.

The Scrub Plum Project video will be distributed to other schools through the Department of Education's regional service projects. At this time, a limited number of copies are available by contacting Dr. David LaHart, Region 3 Environmental Education Service Project, at (407) 783-0300, or Jan Zerbe, Region 4 Environmental Education Service Project, at 1-800-392-2209.

The enthusiasm was infectious at the January workshop. Virginia McKinley, Ken Morrison, Steve Morrison, Dale Fair, Faye Smith and local artist Chan Hannon eagerly shared their knowledge of the project. It wasn't long before the participants were out on the Scrub Plum Trail observing and learning about prickly pear cacti, lupines, turkey oaks, and of course, scrub plums, on their own. After visiting the scrub, the adults, like students, returned to the classroom to paint a favorite scene from the trail. McKinley hopes this first-hand knowledge will kindle a desire to begin similar programs in their schools.

"This has been, and continues to be, one of the most rewarding projects of my life," she said. "The project has given the church and community a way to be useful in the children's lives, in an enjoyable way. It has given the children an experience of their own natural environment, in its beauty, in its changes, as it really is." ◆

Lenela Glass-Godwin is the nongame education specialist in the Commission's South Region.

'CRACKER TIME

Text and Photographs by Bob Huttemeyer

Jim Fowler, a respected Okeechobee fishing guide, has caught peacock bass in the jungle lakes of Panama, trout in Montana's brawling rivers, and all of the popular game fish that inhabit Florida's inshore waters. His personal favorite? Would you believe shellcrackers?

Lots of guides get their kicks fishing for this popular panfish that spawns around the full moons of spring and early summer. The 'cracker is feisty on the end of a line and a delight to fry up for a summer supper.

Although shellcrackers are found in many of Florida's lakes and rivers, the Lake Okeechobee area is no doubt one of the best places to find lots of these hard-fighting sunfish. Miles of clear, shallow water with shell or gravelly bottom provide shellcrackers with perfect conditions for spawning. Areas such as Long Point, near Belle Glade, or the mouth of the Indian Prairie Canal, are favored locations for shellcracker aficionados.

Shellcrackers get their name from their ability to crush snails and other hard-bodied animals. The 'cracker's preferred food is grass shrimp, which are easily captured by dragging a fine-mesh net through shoreline grass. But most anglers fish for them with small earthworms, known locally as red wigglers. It pays to bring along a plentiful supply of them, for shellcrackers can be tricky to hook.

'Crackers, sometimes called redear sunfish, won't readily come to the surface to take a fly rod lure the way bluegills will, except at spawning time. They are more inclined to feed on mollusks and don't tend to compete with bluegills for insects. They will, however, bite crickets at times, and a BeetleSpin, Rooster Rail, Shyster or TinyTrap pulled across their nests will usually be attacked vigorously. But it pays to fish the lure deep, and to stick with either grass shrimp or red wigglers if you are serious about bringing home a mess of 'crackers.

The shellcracker is feisty on the end of a line and a delight to fry up for a summer supper.

Okeechobee shellcrackers come in from deeper water about the first full moon in March to spawn over shell bottoms, usually in about 3 to 4 feet of water. Eagle Bay is one of Fowler's favorite spots to fish for 'crackers, especially during the week preceding a full moon.

"The 'crackers will usually mill on the surface a few days before spawning," Fowler said. "That's the time to go after them with a fly rod. They'll hit a small popper or a dark colored sinking fly, like a Wooly Bugger, and it's no trick to catch your limit. It's some sight to see a hundred or more of them on the surface like that."

Shellcrackers are gregarious and sometimes build nests in colonies of a hundred or more. Their nests are easy to spot in clear water. If you anchor far enough from the beds so as not to spook the fish, it's possible to take a decent stringer from that one location.

I was eager to experience fishing a shellcracker "milling," but Fowler and I had trouble scheduling a fishing trip during a full moon, the prime time. We settled for the second week in July, the new moon period. Some anglers regard the new moon period as the second best time to fish for 'crackers.

Charlie Rucks was the third member of our party. He and Fowler actually grew up in the same part of south Florida and hunted and fished the same territory. Although they did not know one another in those days, the two met and became friends later in life.

"Charlie can *smell* 'crackers," Fowler said as we headed toward Eagle Bay." He's my bed-spotter."

When we arrived at the chosen site, a sheltered cove not far from the back side of Okee-Tantie Recreation Area, Fowler shut down the big outboard and switched to the trolling motor. He and Rucks stationed themselves in the bow and started to search for shellcracker beds. We found a number of old beds that were devoid of 'crackers before Charlie raised his hands for Jim to stop the boat.

"It's not a big series of nests," Rucks said, "but there are fish on them. Let's try it."

Once anchored, Fowler broke out a box of red wigglers. Rucks' rig consisted of an ultralight spinning rod and reel, 4-pound test line, and a No. 6 hook with split shot attached a foot above. While I was baiting my hook, Rucks was already landing his first fish, a feisty half-pounder. The catch was steady, though not spectacular, and several bluegills joined the shellcrackers in the livewell. I found the 'crackers to be quite adept at stripping worms from the hook, but Rucks had no such problems. My respect for his ability rose as the morning progressed.

When the bite petered out at Eagle Bay, Fowler decided to try Little Grassy Island, about a mile and a half to the southeast. We saw a number of good-sized shellcrackers building nests right along the boat trail. The bottom here is hard sand mixed with shells, and the trail is close to the lily pads. The fish were spooky, however, and wouldn't bite. We wondered how the 'crackers would endure the boat traffic.

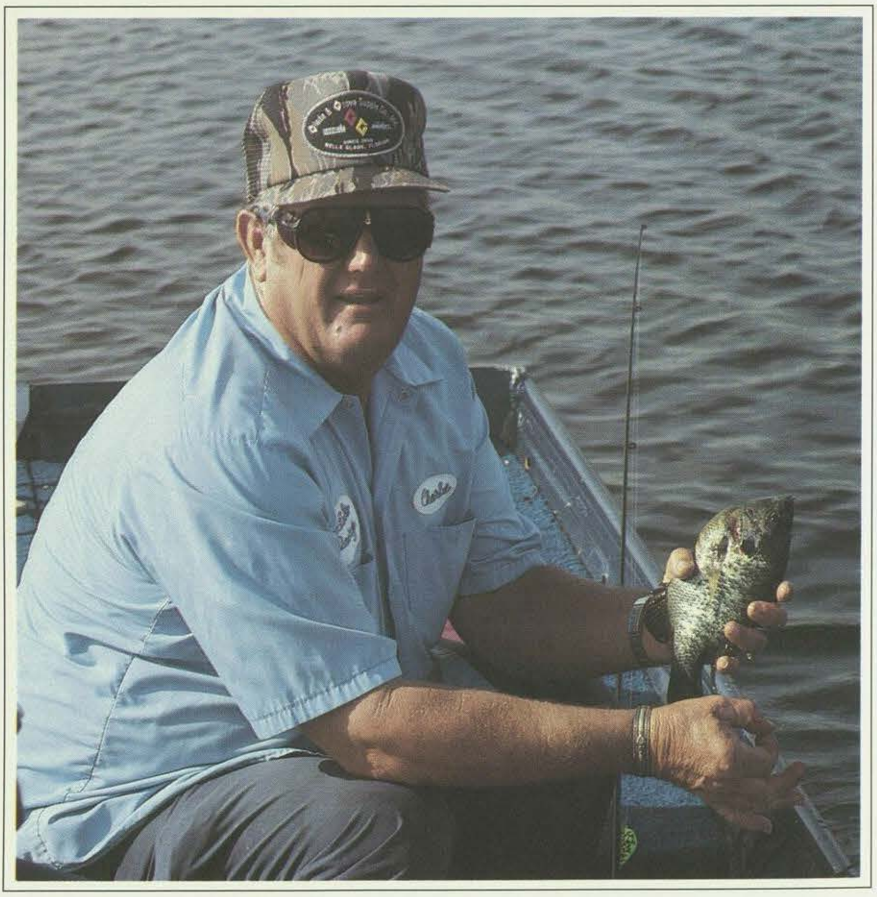
Fowler was philosophical about not catching more fish.

"This afternoon or tomorrow morning you might fish the same spots we did today and the fish will be there," he said. "You just can't figure them sometimes. And the fishing was better in May on the full moon. Next year I'll get you out here for the full moon in April or May."

Like the Atlanta Braves, next year can't come soon enough for me.

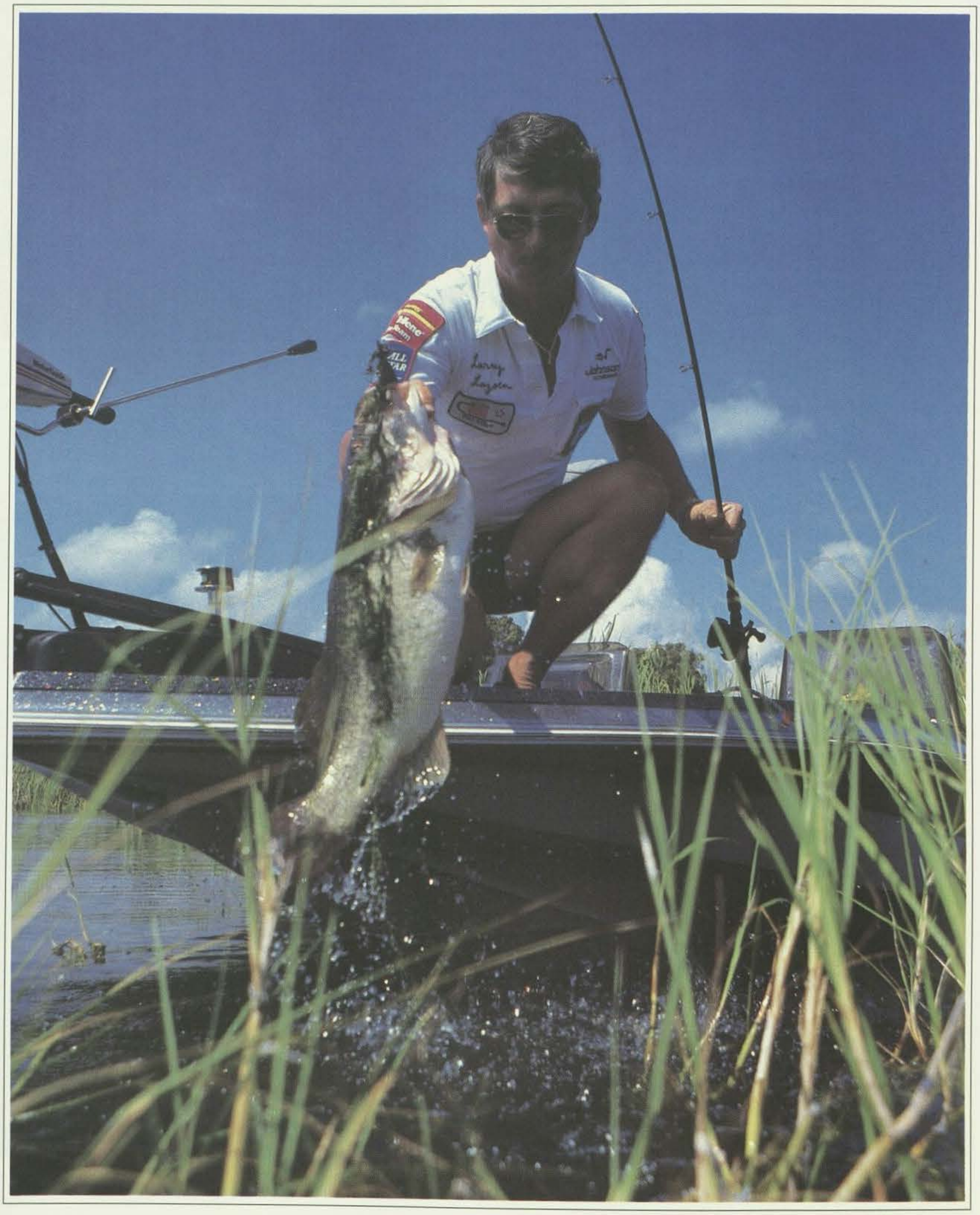
Bob Huttemeyer always planned to spend more time fishing. He had to retire to do so and now writes about it for a weekly publication.

It's easy to see why shellcrackers are also called redear sunfish.



Charlie Rucks with one of many shellcrackers the trio pulled from Eagle Bay.

Summertime Spoon Frenzy



Text and Photographs
by Tim Tucker

Summer means plenty of sunshine and hot days, but more importantly, it signals the beginning of one of Florida's most exhilarating types of bass fishing.

During late spring and into summer, there aren't many artificial lures better than the Johnson-type spoon. It produces more large bass than most types of lures because of one factor: you can run it through the thickest vegetation in the lake, where big bass hide as the days grow hot.

A Johnson spoon is the ideal weapon for working pad fields. These lightweight metal spoons are weedless, so you can cover lots of water without hanging up. And you can finesse the lure on demand, dropping it into holes and pockets as you retrieve.

Kentucky's Ron Shearer will attest to the quality of spoon fishing in Florida.

It was during a 1982 Bass Angler Sportsman Society (B.A.S.S.) tournament on Lake Okeechobee that Shearer came across a spoon pattern that gained him instant recognition, gave him his first national tournament victory and established his career as a fishing pro. Shearer turned in a seven-fish stringer that weighed 36 pounds, 8 ounces — a B.A.S.S. record.

During Shearer's amazing day, he was fishing a shallow, weedy bay with a 1/2-ounce Johnson Silver Minnow spoon teamed with a white skirt.

"We had some good cloud cover that day," Shearer remembered. "I moved into some peppergrass and fished the little cuts in the grass. I was cranking it real slow, just wallowing it through the grass. I just sort of drifted from one cut to another when, all of a sudden, the action started. When the big fish hit, they really swallowed it. I had to take needle-nose pliers to get it out of their throats."

Shearer believes an important part of his success was altering the spoon's rubber skirt. After a couple of bass hit short and didn't contact the hook, Shearer trimmed the skirt to about 2 inches. It must have worked. Two of his seven fish weighed 8 pounds or more, and two others topped 6 pounds.

"Spoons were made for Okeechobee," Shearer said.

Clewiston's Richard Vance is another spoon nut. A former qualifier for the BASS Masters Classic, Vance has fished Johnson spoons throughout the state with great success. It was a Johnson spoon that enabled him to finish seventh in a B.A.S.S. tournament on Kissimmee and make the coveted Classic. And it is the silver or gold Johnson spoon that produces limit after limit for him during this time of year.

"The spoon is a very underrated lure in many parts of the country," Vance said, "but it has plenty of believers here in Florida."

Vance juggles four colors of spoons and three colors of skirts, depending on the water clarity and sunlight.

When there's bright sunshine and clear water, he uses a silver or gold spoon and white skirt combo. In off-colored water, he switches to a chartreuse spoon and skirt for high visibility. On overcast days, Vance relies on a black spoon with a yellow or chartreuse skirt.

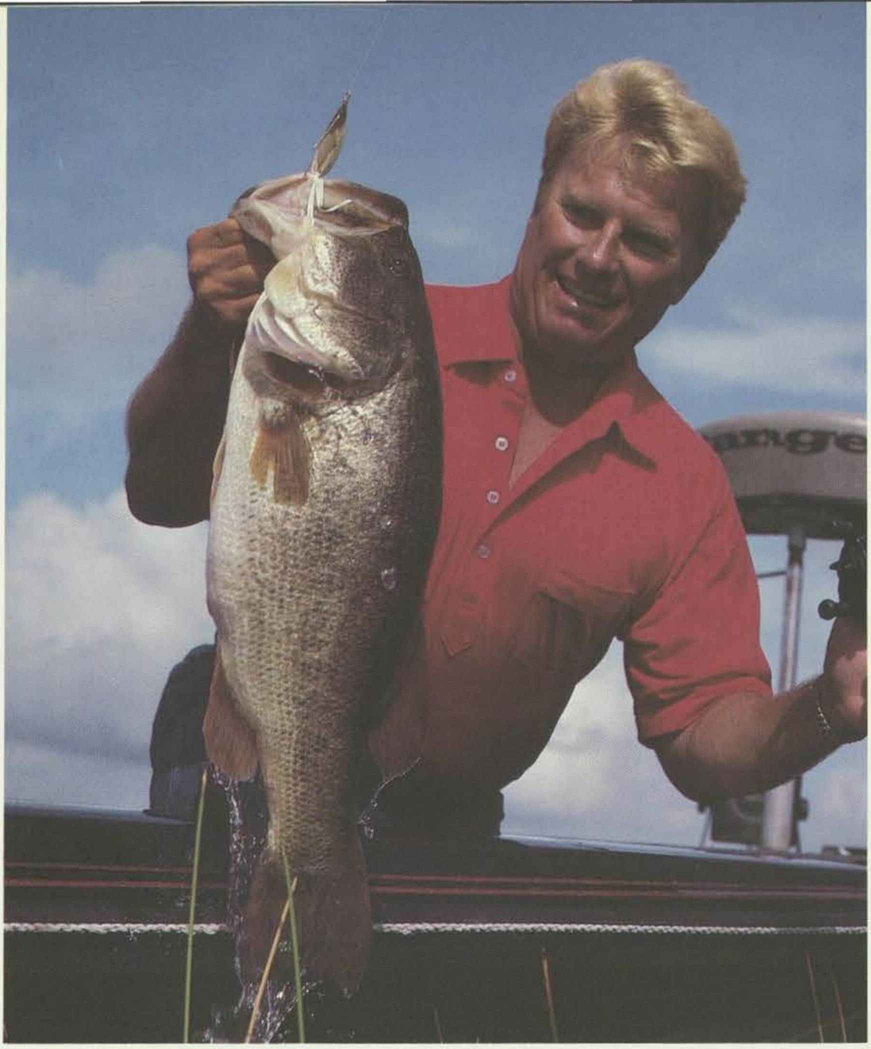
Vance attributes a significant portion of his spoon success to the personalized alteration of each skirt. He always trims the longer lengths of rubber to match the shorter legs and then plucks much of the rubber completely off. He usually finishes with only a dozen or so rubber legs remaining intact.

"Trimming the skirt does three things," he explained. "It allows you to cast the spoon better; the lure will come through the grass and weeds easier; and it gives the fish less to grab onto. It's more likely to grab the hook."

Vance usually retrieves the spoon as slowly as possible so that it doesn't get hung up constantly.

Late spring signals the beginning of an upcoming spoon-season frenzy for Okeechobee angler Larry Douglas.

"Spoon fishing is hard work," Douglas said. "There are many different ways to work a spoon, from skipping it across the surface to bouncing it off the bottom. ▷



Roland Martin shows off a bass that fell victim to a Johnson spoon.

"To work or control the spoon, I use a 7-foot heavy-action rod with 17- to 20-pound test line on a high-speed reel. Most spooning is over grass or heavy vegetation, and this gives the strength and power necessary to land a large fish.

"I choose the size of the spoon according to the size of the bait that the bass are feeding on," he added. "When small bait are present, I use a 1/4-ounce spoon. With larger bait around, I use a 1/2-ounce model. Weather conditions and water clarity will dictate my choice of spoon color. On cloudy days I will throw a silver spoon with a white or chartreuse grub as a trailer and a gold spoon with a yellow or chartreuse grub on clear days. Early in the morning, I'll use a black spoon with a yellow grub."

Douglas mixes his retrieves and different types of spoons according to the situation.

"I use three methods for retrieving a spoon," he explained. "I skip the spoon fast across the surface, work it slowly, just barely on top of the water, or crank it to a pocket and then let it fall briefly before resuming the retrieve.

"The Johnson spoon is easy to cast, but difficult to keep on the surface. When I want to work a spoon slowly and still have good action, I switch to a Barney spoon or Captain Hogan-style spoon," he said. "These have more buoyancy, so they stay on top easier and fall slowly with a good fluttering action."

Douglas adds two important points about spoon fishing: keep the rod tip high during the retrieve, and never set the hook until you feel the pressure of the fish.

Larry Wright, a Lake Okeechobee guide and former BASS Masters Classic qualifier, fishes spoons regularly and has developed a consistently successful plan of attack.

He uses a 1/2-ounce Johnson spoon, except for heavy winds, when he switches to a 3/4-ounce model. On sunny days, Wright uses a silver spoon teamed with a white grub, but switches to a gold spoon and chartreuse grub on cloudy days. Extremely heavy cloud cover calls for a black spoon/chartreuse grub combination.

"My number one method for working a spoon is to move it rapidly over the surface," Wright said. "I do this no matter what type of vegetation I'm fishing. If it doesn't produce, I slow my retrieve, but still try to keep the lure on top. If this fails, I slow the spoon even more, letting it fall into open pockets, and then after it drops, I pull it up and start my retrieve again.

"Always remember you can fish a spoon under most conditions. Try throwing a spoon in the bulrushes, let it sink to the bottom and then work it back like a plastic worm."

Steve Bushore is one of Florida's most successful tournament fishermen, and spoons are a major reason why, particularly in the summer.

"The equipment I use for spoon fishing is very important in working the spoon properly," said Bushore, a former Miami Dolphin and Washington Redskin. "I use a 7-foot rod to help keep the spoon on top or near the surface. The rod must be a medium-heavy to heavy action with enough backbone to haul a big fish out of heavy cover. I use an Ambassadeur reel because it can handle 20- to 30-pound test line, which is so important in thick cover.

"I use a 1/4-ounce spoon on days with a little wind or in cover that's not too thick or has a few inches of water over the grass. The 1/2-ounce spoon is my choice on windy days and in heavy cover so I can control the spoon better and keep it in the water.

"I use three colors of spoons: silver for bright days, gold on bright days with cloud cover moving in and black on very cloudy days," he continued. "I use only two colors of trailer, either chartreuse or chartreuse/metalflake. And I use a 2- or 3-inch grub with a curly tail as a trailer.

"I prefer using a spoon in shallow water between 1 and 3 feet. I always look for maidencane, peppergrass or hydrilla and work the spoon up on the surface so that it creates a little wake as I reel it back to the boat."

In recent years, many Florida anglers have discovered that one of the most productive spoons looks nothing like the age-old Johnson spoon. Rebel's Talkin' Spoon doesn't resemble its more established counterpart, but the two spoons have something in common: both catch a great deal of fish in grass.

The foil-finished Talkin' Spoon in both silver and gold has proved particularly effective in most grassy lakes. Unlike a Johnson spoon, the Talkin' Spoon emits a rattling sound that many of its believers think helps attract bass. It's an excellent lure for even the densest types of vegetation, like hydrilla.

Rebel also makes a weedless spoon called the Arrowhead that is a little more streamlined than the traditional Johnson spoon, making it easier to bring through thick surface vegetation. And some of the smaller saltwater versions like the Crocodile spoon make excellent lures that finesse grass bass into striking.

Knowledgeable bass anglers use a variety of trailers on their spoons, including regular rubber skirts, short grubs and even plastic worms. Some prefer the Burke Twin-Tail, a two-legged, thin plastic trailer. Others switch to plastic worms for bass that seem to be hitting short or tentatively. And some Florida fishermen have discovered that a plastic lizard or crawfish imitation can make an excellent spoon trailer.

Regardless of personal taste, summer marks the time when spoon fishing begins to heat up in the Sunshine State. And when it's hot, spoon fishing is among the finest angling available anywhere.

Tim Tucker is an outdoor writer. For an autographed copy of his new book, "Secrets of America's Best Bass Pros," send $12.95 to T.T. Outdoor Productions Corp., Rt. 2, Box 177, Micanopy, FL 32667 or call 1-800-252-FISH.

Spoon Shaking

An Unusual Technique

Larry Lazoen calls it "spoon shaking." Whatever you call it, it's slightly unusual and amazingly productive when it comes to luring Florida largemouths.

Lazoen, one of the top guides on Lake Okeechobee as well as one of the country's premier tournament bass pros, developed the technique as a way to entice well-hidden bass from their grassy lairs.

With the basic retrieve of a Johnson spoon, the lure runs just below the surface, bouncing off submerged or thin surface vegetation. But that method often isn't very productive or enjoyable when fishing in heavy cover such as matted hydrilla and peppergrass or large fields of dense lily pads.

In those situations, even a weedless spoon has difficulty coming through the vegetation. But with Lazoen's spoon-shaking technique, it doesn't have to penetrate the grass, yet it is consistently productive. The spoon simply skirts across the top of the vegetation, creating a commotion as it comes. It is a faster and noisier way to work a Johnson-type spoon.

"When I'm fishing grass that isn't very thick, I'll run a spoon under the surface like everybody else," Lazoen says. "But spoon shaking works in heavy cover where there's little else you can throw."

For this type of spoon fishing, Lazoen uses a long (6-foot) rod, heavy line (20- to 25-pound test) and a 1/2-ounce spoon with a plastic grub trailer.

As he reels the spoon, Lazoen constantly shakes his wrist, which makes the lure slap the top of the weeds and water at regular intervals. The sound it produces underwater must be either enticing or aggravating because bass respond to spoon shaking with amazing aggression.

"I think the speed of the spoon causes a reaction type of strike rather than a hunger type of strike," Lazoen explained. "They hear it coming for so long because it's beating the water as it moves toward them. Once it arrives, they nail it, even if they have to blow through the grass to get it."

— Tim Tucker

Delicate Balance

Species: Key Largo Woodrat (*Neotoma floridana smalli*)

Florida and Federal Status: Endangered

How do you feel about rats? If you think like most Floridians, the only good rat is a dead rat. And it's true that some of Florida's nonnative rodents, especially Norway and black rats, can be a real nuisance as well as a public health threat.

But consider the Key Largo woodrat. These unobtrusive mammals are unlikely to eat your garbage, transmit disease or ever cross your path. And they live only among mature stands of tropical hammocks on the northern half of the island of Key Largo.

In fact, compared to pestiferous black and Norway rats, Key Largo woodrats, also known as "pack rats" or "trade rats," are downright endearing. Their fur is soft and dense; their ears and eyes exceptionally large and round. Fastidious bathroom habits characterize these animals, who tidily deposit their droppings in one place in latrine-like piles.

Key Largo woodrats build huge stick nests shaped like beaver lodges, but they also hole up beneath tree roots or in cracks in the limestone substrate. Woodrats seek food and refuge from predators high among shady tree branches. There the leaves, seeds, fruit and buds of tropical hardwood plants provide the mainstay of their vegetarian diet. They even have been known to build large stick nests high in the trees, away from ground predators.

Like their northern cousins, Key Largo woodrats inexplicably hoard bright or shiny objects, and their nests often contain old keys, belt buckles or foil scavenged from nearby campsites or old cabins. The "trade rat" leaves a treasure of its own in return, however, and a camper may find a cryptic pile of sticks or bones in place of a pilfered coin. Key Largo researchers suspect that these little rodents may also purloin golf balls, because they mysteriously appear around woodrat nest sites.

Despite their inoffensive qualities, we have driven Key Largo woodrats to the brink of extinction. The woodrat's fatal flaw is its unswerving loyalty to the vanishing tropical hardwood hammocks of Key Largo. Residential and commercial development has eliminated much of the island's mature forest, and less than 2,000 acres of habitat suitable for Key Largo woodrats still remain.

Woodrats are not alone in suffering the consequences of their very specific habitat adaptation. The Florida Natural Areas Inventory has classified 62 plants, five reptiles, three birds and two other mammal residents of tropical hardwood hammocks, along with the Key Largo woodrat, as rare or imperilled at the state or global level.

Tropical hardwood hammocks never were extensive in Florida, and they have been exploited heavily since European settlement in the 1820s. These rock-rooted, evergreen forests of the Florida Keys support an unusually high number of species — more than 150 kinds of trees, shrubs and vines. Many of the animals and plants native to tropical hardwood hammocks, including the seldom-seen Key Largo woodrat, occur nowhere else in the world.

Not only the fate of the Key Largo woodrat, but also of a great repository of global diversity, hang in the balance in the rapidly developing Florida Keys.

– Susan Cerulean

JULIE A. HOVIS

Ask Your Biologist

Dear Fisheries Biologist:

Some bass fishing guides in our area are using step-ladders in their boats to spot and catch bedding bass during spawning season. Is this practice legal, and shouldn't bass fishing be prohibited at this time to allow them to reproduce?

A Concerned Angler,
Ocala

Dear Concerned Angler:

Thanks for your concern. The practice of catching bass during spawning season may be controversial, but it is legal and not biologically detrimental in Florida.

In the early spring, bass move into shallow areas where the male fans out a depression with its tail. A female bass is enticed to the nest, where she deposits 10,000-15,000 eggs for every pound she weighs. The male fertilizes the eggs, which soon hatch into tiny bass fry.

It is during this time that bass are most visible and are somewhat more vulnerable to fishermen who search out these spawning beds. Some anglers use ladders or other tall platforms to locate bedding areas. The height advantage greatly facilitates their ability to spot nests and resident bass.

A number of anglers, however, feel that fishing for bedding bass is unethical and unsportsmanlike. They believe this type of fishing will deplete the spawning stock of bass in these areas. In reality, if aquatic habitat and water quality are good, a single pair of successfully spawning bass is enough to maintain stable bass populations in a relatively large area of water. Spawning success of bass in Florida is exceptionally good for the most part, and no biological reason exists to specifically restrict bass harvest during the spawn or any particular method of fishing.

The number of young bass in any area is predominantly controlled by habitat quality, available food and predation (mostly by other fish, including larger bass, and birds). Nature ensures survival of nearly all fish and animal species by producing a surplus of young. Of tens of thousands of young bass produced annually by each female, only a fraction of 1 percent survive to become adults. If a high percentage of these young **did** survive to maturity, wild areas would quickly overpopulate, and intense competition for available food and habitat would result in unhealthy conditions. Again, population levels of fish in natural areas are subject to biological checks and balances, and their numbers will expand into the limits of the surrounding environment.

We believe the personal ethics of ladder fishing should be left up to individual anglers, but it is our role to appropriately regulate the size and number of fish harvested. Certainly, the practice of using ladders or platforms does give fishermen a decided advantage in locating bedding fish. Some guides who specialize in finding trophy bass for their clients use this method and are the target of frequent criticism.

Fisheries biologists are concerned about the harvest of large bass because these larger female fish are the smallest segment of the bass population. A 10-pound bass in Florida is generally 10 years of age. Over-harvest of this limited resource does reduce trophy bass numbers, particularly in smaller water bodies, since these fish take so long to replace through natural growth and recruitment.

Florida's new bag limit for black bass reflects this concern for preserving its trophy largemouths. **Beginning July 1, the bag limit will be five fish per day, of which only one may be 22 inches or longer in total length. In addition, there is a minimum length of 12 inches for bass taken from the Suwannee River, its tributaries and all waters north and west. South and east of the Suwannee, the minimum length is 14 inches.**

Although these regulations are not targeted at any one group of anglers, they will help prevent over-harvest of our black bass resources. In addition, this will spread harvest of quality-size bass among more anglers so that more people can enjoy catching a big bass.

Fortunately, many anglers and guides are learning to appreciate the satisfaction of releasing trophy bass, hoping the fish may be caught several times before dying of old age. As these catch-and-release values grow in popularity, they will help extend the benefits of the new regulations. Meanwhile, fisheries biologists strive to protect and enhance fish habitat, educate the public about sound fisheries management practices and sport fishing ethics, and design and implement fair and effective regulations.

— Phil Chapman
Division of Fisheries

Outdoor Library

MANAGING WILD TURKEYS IN FLORIDA

By Lovett E. Williams Jr.

In "Managing Wild Turkeys in Florida," Dr. Lovett Williams, under commission of the Florida chapter of the National Wild Turkey Federation, compiles state-of-the-art information on successful management techniques for wild turkeys. His audience is the private landowner, lease holder or manager.

The book includes information on all living subspecies of turkeys, their distribution, the history of turkey management in Florida as well as historical and current hunting regulations.

Williams covers life history and behavior, with thorough information on flock types and functions, turkey movement and home range dynamics, mating behavior, nesting, brooding habits, annual habitat selection patterns and predator relationships. Turkeys require a lot of living space, at least 4-5 square miles. The author advises the land manager to consider this when assessing habitat size and composition of a tract of land.

Williams points out that turkeys are opportunistic omnivores, eating whatever is available. He discusses the various food categories used by turkeys and how natural plant cycles, in part, shape turkey movement and habitat use patterns.

Perhaps the author understates the significance of a written management plan, which is important for evaluating specific objectives. Without such a record, the plan cannot be evaluated or communicated to others.

Williams provides a good review of the problems surrounding the stocking of pen-raised "wild" turkeys, including a discussion of the genetic reasons such stockings are often unsuccessful. Most importantly, he makes clear that if any turkeys are present, stocking is not needed. He also points out that although a 4- to 5-square-mile area can sustain turkeys, a larger tract of 15-20 square miles is ideal because of varying habitat quality and human activities.

"Habitat Management," Chapter 5 in the text, is the primary "what-to-do" section of the book. Williams begins by explaining the "essence of wild turkey habitat," vegetative structure. In the section on habitat components, the author dispels the misconception that nesting habitat is often a limiting factor in Florida turkey range. He includes important facts about openings for brood rearing and summer foraging and accurately states that it is usually a lack of brood range that is limiting in Florida habitats.

Williams appropriately urges readers to contact the Florida Division of Forestry for information about, and assistance with, prescribed burning. Management for preferred seasonal habitats is rounded out by guidelines for fall and winter foraging, cover and roosting, escape and seclusion cover, including the edge-effect concept. The habitat management chapter concludes with a section on guidelines for maintaining cover conditions, including burning, grazing, mowing and discing, and bulldozing and chopping. The informative discussion on burning includes a diplomatic treatment of both cold season and warm season burning. These management options are used for the same objective: to set back plant succession.

Williams also covers the major limiting factors affecting turkeys: excessive hunting, habitat loss, predation, diseases and parasites, weather and disturbance. Discussions on hunting include an explanation of criteria used to set spring seasons, the need to protect hens and the important role that hunters play in determining the success of management efforts.

Williams provides excellent guidelines for managing a tract of land for multiple uses, including other forms of wildlife, to maximize habitat quality. The author states that predation is the primary cause of death for turkeys, but appropriately points out that wholesale predator control programs are not needed. Williams reviews the primary diseases of turkeys and issues relating to diseases that are pertinent to management.

A chapter on supplemental feeding includes information on mechanical feeders and food plots as well as water requirements. Williams provides a table of information for agricultural crops commonly planted for turkeys, including planting season and rate, soil type and pH, seeding method and the period each crop is used by turkeys. This information is intentionally broad, and, as the author points out, managers will have to acquire additional information from specialists in their geographical area.

The author puts forth a method to establish a minimum population count, citing the need for managers to have a relative idea of the density of turkeys on their tract of land. A host of assumptions and considerations that must be taken into account, however, are not covered in the book. These will enable managers to understand fully what minimum population count data actually represent and how, if at all, these data can be compared from year to year. Given the technical complexity of this subject, the author should have urged managers wishing to estimate turkey population densities to consult with a professional wildlife biologist about techniques and data interpretation.

The summary is intended to "stress a few of the realities of managing wild turkeys." This section includes two excellent tables, the first of which summarizes common degrading factors for turkey cover types and their remedies. The other table presents the relative importance of turkey management practices, ranging from protection from over-hunting (very beneficial) to stocking pen-reared turkeys (very harmful). This chart in itself is a good management summary. Although strategically located as "the last word," readers should be mindful not to overlook its contents.

Williams used his 30-plus years of turkey management and research experience to make "Managing Wild Turkeys in Florida" a "what-to-do" primer in turkey management. If typographical errors bother you, prepare for minor distractions. However, the book's content makes it an important contribution to the literature and one of few sources for comprehensive turkey management information.

Real Turkeys Publishers, Gainesville, FL. 1991. 92pp. $3.00 paper.

— Dr. David T. Cobb
Division of Wildlife

THE ISLANDS AND THE SEA:
Five Centuries of Nature Writing from the Caribbean
Edited by John A. Murray

In one of the concluding essays of this satisfying collection, Barry Lopez wrote, "In recent years several American and British publishers have developed plans to reprint...classic works of natural history...[These] books should include not only works of contemporary natural history but early works...so that the project has historical depth...to unearth those voices that once spoke eloquently for parts of the country...variety of natural ecosystems...and reflect the great range of dignified and legitimate human response to them. And it should make clear that human beings belong in these landscapes, that they too, are a part of the earth's natural history." (Excerpted from "The Passing Wisdom of Birds.")

John A. Murray, the anthology's editor, has accomplished such a noteworthy undertaking for the circum-Caribbean basin, seeking out those special voices that recorded the wonderment of European discovery and exploration, the consternation of settlement and exploitation. This volume makes voyages across 500 years in which the reader may experience the astounding diversity and enticing beauty of the Caribbean Sea. Even the jaded island traveler, weary of azure lagoons surrounded by high-rise resorts, can see the landscape with new understanding and appreciation.

Among the notable works included in this collection are the letters of explorers Christopher Columbus, Rene Laudonniere, John Hawkins and Walter Raleigh; narratives recorded by early naturalists including Sir Hans Slone, Mark Catesby, William Bartram and Charles Darwin; adventure and travel pieces authored by Daniel Defoe, Harriet Beecher Stowe and V.S. Naipaul; eyewitness accounts reported by George Kennan, Ernest Hemingway and Paul Brooks; thought-provoking essays written by Edward O. Wilson, Barry Lopez and David Rains Wallace. In all it represents a delectable smorgasbord of 48 authors that satiates the intellect with tropical fare especially welcome on wintry evenings.

Oxford University Press, 1991. xvi, 329 pp., Preface, acknowledgements, maps, graphics, photographs, bibliography and index, $22.95 hardbound.

— Rob Blount
Florida Agricultural Museum, Tallahassee

It's The Law

By Inspector Kyle W. Hill

Question: Why has the Commission decided to impose new bag and size limits on black bass?

Answer: Successful conservation of fish and wildlife resources is based on three factors:

Adequate habitat — forests, fields and waters of sufficient quality to provide the needs of the species they support;

Viable populations — adequate numbers and health to ensure the survival of future fish and wildlife species; and

Effective enforcement — ensuring compliance with regulations on legal harvest and protecting against the illegal taking of nongame or endangered species. All three factors are necessary for proper resource conservation.

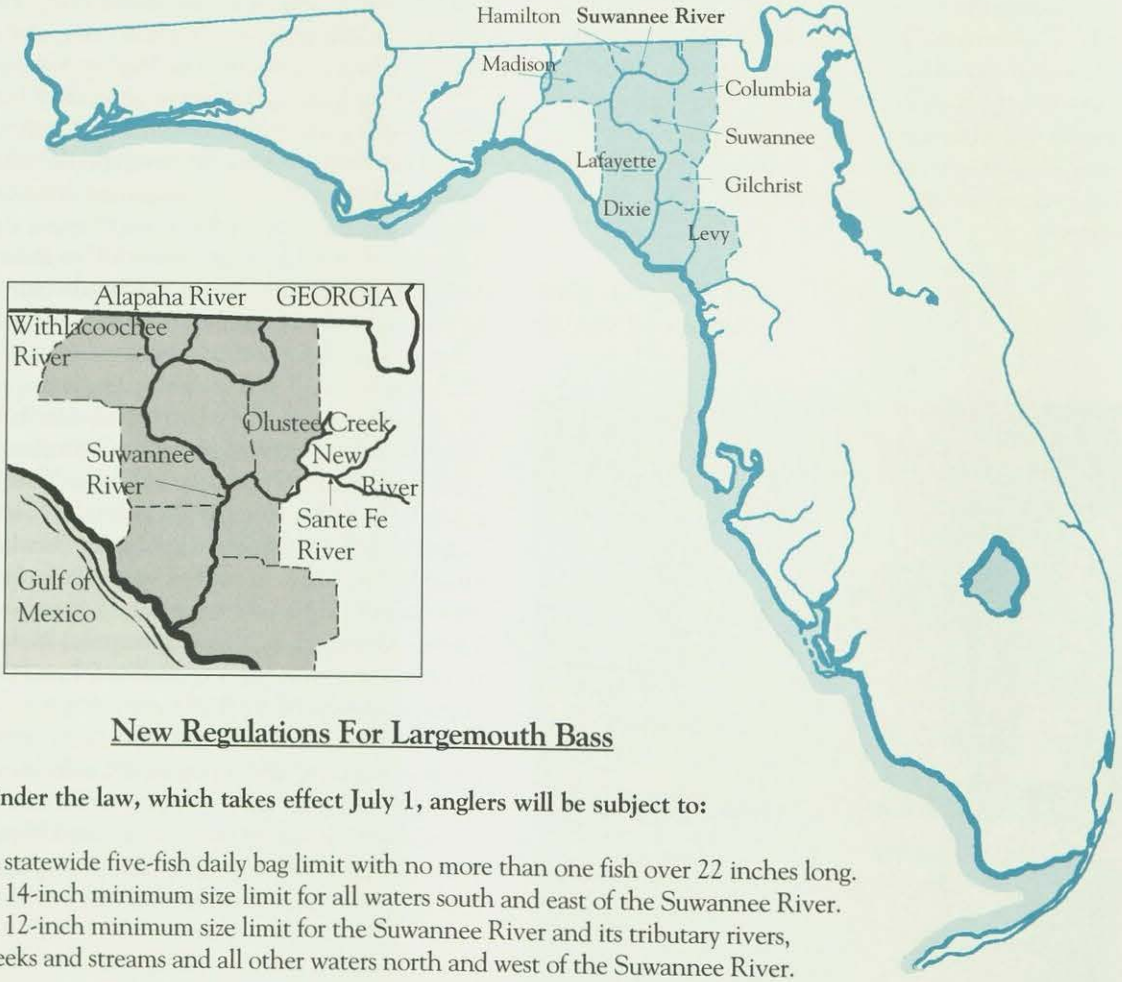
Commission biologists have determined that our water quality has diminished over the past 30 years while fishing pressure has increased dramatically. Although some of our waters are in trouble, most Florida fresh waters still can produce good numbers of bass. However, the overall size of bass caught by anglers has declined because of increased fishing pressure.

Studies show that minimum size and bag limits are effective in restructuring largemouth bass populations. Most anglers prefer to catch a few large bass rather than a limit of smaller ones, so biologists are managing largemouth bass for quality over quantity. They predict that the new regulations will help produce more 3- to 5-pound bass catches over the next two or three years, and 3- to 10-pounders eventually would become abundant.

The success of this type of management depends on compliance with the new regulations. Wildlife officers will be actively enforcing these regulations when they become effective July 1.

The new law will not replace regulations on lakes with special bag and length limits already in effect.

The regulations and areas are described below.



New Regulations For Largemouth Bass

Under the law, which takes effect July 1, anglers will be subject to:

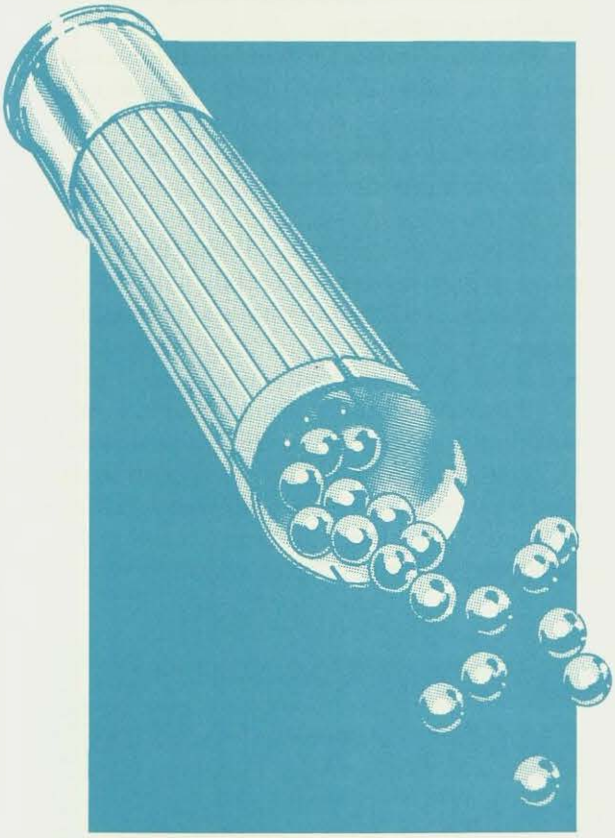
- A statewide five-fish daily bag limit with no more than one fish over 22 inches long.
- A 14-inch minimum size limit for all waters south and east of the Suwannee River.
- A 12-inch minimum size limit for the Suwannee River and its tributary rivers, creeks and streams and all other waters north and west of the Suwannee River.

By Captain Ed Tyer

Summer Safety Tips

Quite often we hear people refer to "child-proofing" their homes. By this they mean putting away things that are breakable or dangerous to children. With summer approaching, and the additional free time it means for children, a little more child-proofing may be in order.

Most of us are aware of the need to secure (lock up) firearms — but that's only half the job. With it comes the responsibility to store ammunition separately under lock and key. Perhaps this is something to which we devote too little thought. We understand the need to store ammunition separately from firearms, but the ammunition itself is a source of mystery for curious youngsters.



ART BYJOHN ROBERGE

A single cartridge or shotgun shell lying in a drawer or glove compartment or atop the chest-of-drawers seems rather innocent...until a youngster sees it. After watching television programs in which the star transforms some everyday item into a bomb or rocket and blows a door down, young minds begin to explore. There have been many children, and even *adults*, injured when they tried to build a bomb from cartridges, or when they threw ammunition into a fire just to see what would happen.

A few years ago I pulled into a convenience store and noticed a youngster, about 8 years old, with his eye and leg bandaged and burns on his hand. When I questioned the boy about his injuries, he told me that he had held a cigarette lighter to a .22 cartridge to see what would happen. He held the bullet with a pair of pliers while he heated the case. When I asked what happened, he said "it just exploded."

Apparently, the heat set off the priming mixture, which ignited the powder and caused an explosion sufficient enough to propel the cartridge case into the boy's leg. The case had to be surgically removed. The powder severely burned his eye and hand. Like he said, "it just exploded."

This was an awfully hard way for a child to learn "what would happen if..." With no idea of what may really happen as a result of a particular act, children are oblivious to the consequences of their actions.

Disassembling a cartridge and removing the powder is a common practice. To some, it's exciting to watch the powder burn, but the flash that often occurs can cause serious injuries. So, what should we do with old cartridges and shotshells? If you don't know how to dispose of them properly, contact someone who does. A friend who reloads may have a bullet-puller for centerfire cartridges. A gun shop may take them; most shops have a loose-cartridge box full of old or obsolete ammunition. But, please don't throw them in the trash or worse, a fire, just to see what happens.

Most importantly, don't leave them lying around.

Conservation Update

Compiled by Scott Ball

FLORIDA WILDLIFE TURNS 45

With this issue **FLORIDA WILDLIFE** celebrates its 45th anniversary.

"Our magazine has been called **FLORIDA WILDLIFE** for 45 years," said editor Andrea Blount, "but there's actually been a magazine published by the Game and Fresh Water Fish Commission since the 1930s. At first it was a quarterly called 'Florida Woods and Waters,' which sold for 15 cents a copy. In the mid-'30s the name was changed to 'Outdoor Florida,' and it became bimonthly, selling for 10 cents a copy. With the advocacy of conservation in the '40s, however, the name **FLORIDA WILDLIFE** was chosen in June 1947."

FLORIDA WILDLIFE has been reporting on Florida's ecology, game and fish regulations and the status of threatened and endangered species for the Commission for 45 years. The magazine has won state and national recognition for its entertaining stories and informative articles on responsible recreation, natural history and wildlife art and photography.

"**FLORIDA WILDLIFE** and the Commission are very excited because we are entering our 46th year of publishing Florida's official wildlife magazine," said Duke Hammond, director of the Commission's Office of Informational Services. "Our goal is to spread the word about how important Florida wildlife is in today's world."

NEW BAG LIMIT FOR BASS

On July 1, the first change in statewide bass fishing regulations since 1950 will take effect. In February, the Game and Fresh Water Fish Commission approved new bag and size limits for Florida's most popular freshwater game fish.

The new law replaces the current 10-fish, no-size-limit regulation with one that restricts anglers to five black bass per day, with no more than one fish over 22 inches long. There also is a 14-inch minimum size limit for all waters south and east of the Suwannee River. In the Suwannee, its tributary rivers, creeks and streams and all other waters north and west, the minimum size limit is 12 inches.

See "Ask Your Biologist," page 41 or "It's The Law," page 44 for more information on the new bag limit for black bass.

COMMISSION FARES WELL IN NATIONAL MANAGEMENT STUDY

The Florida Game and Fresh Water Fish Commission has been identified as one of the nation's most effective state fish and wildlife agencies. As a result, Florida was chosen to participate in a three-phase study of comprehensive management effectiveness among wildlife agencies.

The first phase cited the Commission's excellence in six categories: public support and satisfaction, agency management, politics, planning and funding, conflict resolution, and personnel.

Phase two involved a comprehensive survey of 53 Commission employees and six leaders of natural resource groups in Florida.

Project leader Spencer R. Amend of the U.S. Fish and Wildlife Service listed the following reasons why the Commission is effective:

-"...does a good job of listening to input from all sides before making decisions. Being fair in decision-making.

-"Not taking sides on controversial issues, but functioning as a mediator...helps keep the agency out of the fire in many situations.

-"Having both informal and formal processes for gathering input from staff and public.

-"Being a constitutional authority [enables] the agency to work effectively.

-"...hiring well-qualified people."

"I've always known we had a special team here at the Commission," said Executive Director Col. Robert M. Brantly, "but being selected for this study proves it. I hope our participation helps wildlife agencies in other states, and I look forward to learning from the other participants through the survey results."

WATCH OUT FOR LYME DISEASE

Although it's more prevalent in the Northeast, where it was first diagnosed in 1982, Lyme disease has been documented in 48 states, including Florida.

The disease is spread by the bite of the deer tick, and anyone who spends time in the woods — hunter, hiker, camper, birder — is susceptible. The first symptom of Lyme disease is usually a large, red spot or patch at the site of the bite. This is usually followed by flu-like symptoms that may not seem serious enough to warrant medical attention. In its early stages, Lyme disease is easily treated with antibiotics. Left untreated, it can result in heart, nerve or joint problems.

The American Lyme Disease Foundation, an organization dedicated to the advancement of research, treatment, prevention and public awareness of Lyme disease has a few suggestions on reducing your chances of exposure.

-Wear light-colored clothing.

-Pull your socks over the cuffs of your trousers.

-Use an insect repellent containing DEET to repel ticks.

-Check yourself frequently for presence of the small nymphal tick.

For more information on Lyme disease, contact the Foundation at Royal Executive Park, 3 International Drive, Rye Brook, NY 10573, (914) 934-9155.

FOX SQUIRREL STUDY NOTES

John Wooding, a biologist at the Commission's Wildlife Research Lab in Gainesville, has been studying the ecology and distribution of fox squirrels in Florida. Wooding has used radio-transmitter collars on squirrels to collect data on their movement and behavior since 1989.

Of 14 collared fox squirrels, six are female, one of which has borne a litter. Wooding said these females show traits of territoriality, while collared males do not. Four fox squirrels in the study have died; three were killed by raptors, and Wooding suspects the fourth was killed by a coyote.

After reaching adult size, four young animals raised in the same area of Columbia County dispersed to establish their own home ranges. One moved a mile away, two traveled four miles in different directions, and the fourth squirrel's transmitter malfunctioned after the animal had traveled five miles.

TAKE A FRIEND FISHING

NATIONAL FISHING WEEK
JUNE 1-7,1992

Wooding was intrigued by the population density he encountered in one area. He learned that one 20-acre hammock of farm habitat supported seven fox squirrels. More typical, he said, is a ratio of one animal to 50 acres of sandhill habitat.

Fox squirrels are larger than the more common gray squirrels, weighing 2-2½ pounds. They prefer open woods with mature pine and oak trees. The panhandle is home to the southeastern subspecies found in most southern states. Sherman's fox squirrel, a species of special concern, inhabits the north-central and southern peninsula area. The Big Cypress or mangrove fox squirrel is on the state list of threatened species and occurs in the southwest corner of the state.

ADOPT A RIVER

You've probably seen the signs along a rural stretch of highway or in a residential area: "Adopt-a-Highway." Local organizations take responsibility for keeping a designated stretch of roadway free from litter.

The Florida Canoeing and Kayaking Association has applied the concept to Florida's rivers. Individuals or groups can contact this not-for-profit organization to "adopt" a river or river segment.

The segment must be at least one river mile, and the adopter must commit to inspect the section at least once a quarter.

Interested parties can contact the Florida Canoeing and Kayaking Association, Inc. at P.O. Box 20892, West Palm Beach, FL 33416.

BOATING SAFETY IS FOR EVERYONE

With more than 700,000 boats registered to cruise Florida's waterways, boating safety is important for everyone, including water-skiers, knee-boarders and fishermen.

The United States Power Squadrons, a non-profit organization of boating enthusiasts, has taught more than 2.5 million people how to make their boating safer and more enjoyable. For your own sake, let them teach you a thing or two. Contact the Power Squadron at 1-800-336-BOAT to enroll in a boating or sail-boarding safety course.

–Mary M. Davis

Floridana

Converging in the distance, the rails beckoned Leroy and Oscar to exotic places they'd never visited. The tracks ran on to Jacksonville and Miami — Grandpa said so.

Ballast granite crunching underfoot, the anglers tried to match strides to the spacing of the ties, an awkward feat only agile, short-legged gnomes can perform. Oscar let out a screech normally reserved for bee stings, limped to the edge of the tracks and flung himself down. Wrestling off his shoe without untying it, he fished out a pea-sized bit of sharp granite and flipped it toward the river.

Spring rains had ripped out the beaver dam and drained the pool below the trestle. The fishing hole was gone, along with the flier, warmouth and bluenose shiners. They must have dug up an acre of pasture to get the wigglers, all for nought. But excitedly, Leroy dumped the worms into the ditch and charged down the embankment. Blackberries — miles of them! Paralleling the rail bed, a fearsome tangle of briars imprisoned gobs of shiny, black fruit.

Undaunted, the pair braved the formidable thorny brambles to pick a mess of berries to take to Granny for cobbler. The sun climbed above the blackgum trees, and the rails began to shimmer in the mirage. The boys sweated as they gingerly liberated berries from thorns. Erstwhile bait bucket filled, the pair sprinted toward the clay-road crossing, the awful howl of a P & N locomotive reverberating through the woods. If you could hear it, but not see it, the engine was rounding Old Tom's Curve, a mere quarter-mile distant.

As the boys delivered the berries to Granny, she told them, "I can't do miracles. These things take time. Go home and come back after supper. I'll see what I can do." Frowning, she added, "And stay off the tracks."

— Gray Bass

Granny Brannon's Blackberry Dumpling Cobbler

1 quart (4 cups) blackberries*
$2\frac{1}{2}$ cups sugar
$\frac{1}{4}$ cup water
1 tablespoon cornstarch
2 cups self-rising flour
1 tablespoon oil
$\frac{1}{3}$ and $\frac{1}{2}$ cups milk
$\frac{1}{4}$ cup butter

Place berries, 1 cup sugar, water and cornstarch into a boiler over medium heat. Bring to a slow boil, reduce heat to simmer. Allow berries to simmer approximately 30 minutes or until juice becomes syrupy.

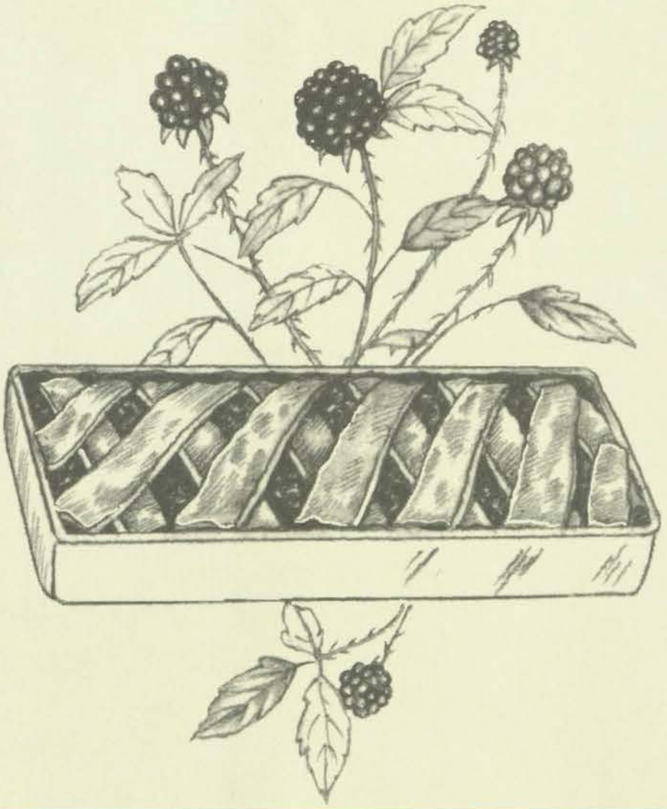
Mix 1 cup flour, oil and $\frac{1}{3}$ cup milk to form a stiff dough. Turn onto a floured board and roll dough into a large, thin square. Cut dough into strips. Drop strips (dumplings) into simmering berries. Let dumplings swell and absorb juice. Pour berry/dumpling mixture into a greased 9" x 13" oblong pan.

Cream butter and $1\frac{1}{2}$ cups sugar together. Add $\frac{1}{2}$ cup milk, stir until mixed. Add 1 cup flour and mix well. Pour over berry/dumpling mixture. Do not stir. Sprinkle with sugar.

Bake at 375 degrees for 45 minutes or until brown.

*Other fruits, such as blueberries, strawberries or peaches can be substituted for blackberries.

— Recipe supplied by
Samma Brannon



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